

APPENDIX A

SUMMARY OF FALL 2011 INVESTIGATIONS ACTIVITIES



**CONESTOGA-ROVERS
& ASSOCIATES**

14496 Sheldon Road, Suite #200
Plymouth, Michigan 48170
Telephone: (734) 453-5123 Fax: (734) 453-5201
www.CRAworld.com

MEMORANDUM

TO: Kevin Lund, MDEQ
Grant Trigger, RACER

FROM: Beth Landale/ Amandeep Bains/sp/132 Det. *BL*

CC: David Favero, RACER
Tom Kinney, CRA

RE: Summary of Fall 2011 Investigation Activities
Willow Run Company Vehicle Operations Area
Ypsilanti, Michigan

REF. NO.: 017303

DATE: May 2, 2012

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) has prepared this memorandum to summarize the results of activities completed between September and December 2011 at Willow Run Company Vehicle Operations (CVO) Area, located in Ypsilanti, Michigan (Site).

2.0 COMPLETED ACTIVITIES

The following tasks were completed between September and December 2011.

Task 1 – Vinyl Chloride Delineation Activities

- *Off-Site Investigation*
- *Delineation of Impacts Near and Beneath Haulaway Building*
- *Sitewide Groundwater Monitoring Event*

Task 2 – Electromagnetic Survey

Task 3 – In-Situ Waste Characterization Event

Task 1 – Vinyl Chloride Delineation Activities

An investigation was completed along the south side of Tyler Road to assess the extent of chlorinated volatile organic compounds (CVOs) beyond the southern property boundary. Delineation activities of soil and groundwater impacts near the Haulaway building were also completed.

The shallow groundwater at the Site has been impacted with chlorinated and non-chlorinated volatile organic compounds (VOCs). The main constituents of concerns (COCs) at the Site are trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride. The on-Site groundwater monitoring

event was conducted to evaluate VOC concentrations both south and north of the groundwater divide and at the property boundary wells.

The groundwater results are compared against the Michigan Department of Environmental Quality (MDEQ) Act 451 Part 201 generic cleanup criteria (criteria). The MDEQ granted a *groundwater not in an aquifer determination for the surficial unit from which this groundwater is sampled* (letter to Ken Richards dated September 1, 2004). Accordingly, drinking water criteria for the on-Site wells are not applicable. However, the groundwater results from the perimeter and off-Site locations are compared against the Residential Drinking Water (RDW) criteria to determine whether a notice of migration (NOM) is required for the constituents in groundwater migrating off-Site.

Off-Site Investigation

A GeoProbe was used to install three 1-inch diameter polyvinylchloride (PVC) temporary wells (TWOS-01, TWOS-03, and TWOS-04) and two 2-inch diameter PVC permanent monitoring wells (MWOS-02 and MWOS-05) at the Fons Landfill (landfill) located across Tyler Road to the south of the Site. The wells were installed outside the clay berm surrounding the northern part of landfill.

Additionally, two 2-inch diameter PVC monitoring wells, MWOS-06 and MWOS-07, were installed approximately 3-feet above a 72-inch sewer line located along the south side of Tyler Road to assess whether the sewer is acting as a preferential pathway for the impacted groundwater. The 72-inch sewer line belongs to Ypsilanti Community Utility Authority (YCUA) and the 3-foot buffer zone was part of the agreement with YCUA to protect the sewer line from damage during drilling activities. Two step out soil borings (SBOS-06A and SBOS-06C) were also completed (adjacent to MWOS-06) to confirm the location of bedding fill material associated with the sewer, prior to setting the well.

No soil samples were collected during this investigation per the access agreement obtained from the landfill. Stratigraphic logs for each location are presented in Attachment A.

Groundwater levels were obtained from the off-Site wells and are presented on Table 1. Groundwater samples were collected from TWOS-04, MWOS-05, MWOS-06, and MWOS-07, following well development activities. The remaining three wells (TWOS-01, MWOS-02, and TWOS-03) were dry; therefore, no samples were collected. A sample was collected from an off-Site well, GS-7, and the 72-inch sewer outfall located south of Tyler Pond dam, east of the Fons landfill. Groundwater samples from the landfill wells were collected for analysis of cis-1,2-DCE, TCE, and vinyl chloride. The outfall sample was analyzed for target compound list (TCL) VOCs.

Results

The locations of all the wells are presented on Figure 1. Boring logs were used to create stratigraphic cross sections. Figure 2 presents the locations of the cross sections, and Figures 3, 4 and 5 present the cross sections.

Soil: No soil samples were collected for this investigation as per the access agreement obtained from the landfill.

Groundwater: Table 2A and 2B presents the groundwater results from the off-Site wells and the 72-inch sewer outfall, respectively. The footnotes for the criteria are presented in Attachment B.

Low level detections were observed, however, no exceedances of criteria were observed from the landfill wells. Although not directly applicable, vinyl chloride exceeded the groundwater surface water interface (GSI), non residential drinking water (NRDW) criteria at the outfall.

Delineation of Impacts Near and Beneath Haulaway Building

A GeoProbe was used to install a monitoring well, MW19-29, to define the vinyl chloride impacts near the Haulaway Building. Two additional monitoring wells, MW19-30 and MW19-31, were installed to determine impacts beneath the building. The locations of these wells are shown on Figure 1. Soil samples were collected from each location at the 0-2 foot below ground surface (bgs) interval, the 8-10 foot bgs interval, and the two-foot interval above the water table. Soil samples were analyzed for TCL VOCs, TCL semi-volatile organic compounds (SVOCs), Site target analyte list (TAL) metals, and polychlorinated biphenyls (PCBs). The monitoring wells were developed and groundwater samples were collected for analysis of TCL VOCs, TCL SVOCs, Site TAL metals, and PCBs.

Results

Soil: Soil results compared against the MDEQ Part 201 criteria are presented on Table 3. Several VOCs, metals, and PCBs were detected in the soil samples collected from MW19-29, MW19-30, and MW19-31. However, no exceedances of criteria for VOCs, SVOCs or PCBs were observed. Arsenic exceeded the NRDW protection criteria (PC) and GSI PC at MW19-30 (10-12ft bgs), but was not detected above criteria in groundwater collected from this well. . Chromium (total), exceeded the GSI PC for hexavalent chromium at all three locations. Speciated chromium has not been fully evaluated at the Site at this point. It should be noted that if trivalent chromium criteria can be used, all the detected concentrations are below the statewide background levels. The metal concentrations may be naturally occurring or due to local/regional conditions.

Groundwater: Groundwater results compared to the MDEQ Part 201 criteria are presented on Table 4A.

No exceedances of VOC, SVOC, and PCB criteria were observed in groundwater samples collected from monitoring wells MW19-29, MW19-30, and MW19-31. Manganese exceeded the NRDW aesthetic criteria at all locations, but was well below the 2,500 ug/L non-residential health based drinking water value. As previously discussed, drinking water criteria are not applicable within the Site and will be evaluated at the property boundary. Selenium exceeded the GSI criteria at MW19-29 in one sample but was not detected in the duplicate sample at the same interval.

Sitewide Groundwater Monitoring Event

Groundwater levels were collected on September 26, 2011 to assess the groundwater flow direction and gradient. Groundwater samples were collected from 13 existing wells (MW-12, MW-6, IW-9, IW-12, MW19-06, MW-5, MW19-07, MW19-08, MW19-26, MW19-27, MW19-28, IW-33, and MW19-10) as part of the groundwater monitoring event to monitor the vinyl chloride impacts as stated in the Draft Vinyl Chloride Delineation Work Plan memorandum submitted to MDEQ on August 10, 2011. The groundwater samples from these locations were analyzed for TCL VOCs.

Results

Groundwater: Figure 6 presents the groundwater elevation contours. The groundwater flow direction and hydraulic gradient is consistent with previous groundwater monitoring events.

Groundwater results are presented on Table 4B compared against the MDEQ Part 201 criteria. The groundwater results from these wells are consistent with previous groundwater sampling events.

Task 2 – Electromagnetic Survey

Electromagnetic (EM) surveys were completed in 2004 and 2005 to identify and delineate buried metal debris at the Site. The EM surveys were not completed in the northwestern area of the Site and adjacent to the Haulaway building due to accessibility issues when the Site was operating. The Site is now vacant and these areas are accessible.

The EM surveys completed in October 2011 used EM 61 instruments providing a depth of penetration of approximately 10 feet bgs. The purpose of this investigation was to delineate buried refuse in the northwest area of the Site and identify potential source areas for the high concentrations of CVOCs observed at the Site (particularly near the Haulaway building). The EM surveys completed in 2011 are directly comparable to the previous EM surveys as the ranges for intensity responses are similar for each event.

Figure 7 presents the pre-2011 EM results and the areas that were scanned in the fall of 2011.

Task 3 – In-Situ Waste Characterization Event

Remediation activities are planned to be completed in 2012. The purpose of the in-situ waste characterization event was to characterize the soils prior to remediation activities to refine costs for remedy selection.

Based on the work plan dated November 2, 2011, potential area of concern (PAOC) 18 was divided into six areas as shown on Figure 8. Composite soil samples were collected in each of the six areas within PAOC 18 for waste characterization analysis to evaluate the disposal costs, since excavation or partial excavation for disposal may be considered a potential remedy.

A total of 24 soil borings, ISB-01 through ISB-24, were completed in November 2011. Soil borings were completed into the confining clay layer using a GeoProbe. Soil borings closest to Tyler Pond (ISB-13, ISB-14, and ISB-17 through ISB-20) were completed to 5 feet bgs as the confining clay layer is at approximately 5 feet near the edge of the pond. Soil samples were collected from the 0-5 feet bgs interval, 5-10 feet bgs interval, 10-15 feet bgs interval, and 15-20 feet bgs interval. Samples were composited for each interval within each area. A sample was collected from the 0-5 feet bgs interval only, from the borings near the edge of the pond.

Samples were collected and analyzed for toxicity characteristic leachate procedure (TCLP) VOCs, TCLP SVOCs, TCLP metals, and total PCBs.

Previously, soil samples from PAOC 18 were collected from several depths during an August 2004 investigation to assess the waste characteristics for the purposes of disposal planning. A composite sample was collected at the 0-2 feet bgs interval and the 2-7 feet bgs interval from soil borings SB18-111, SB18-112, and SB18-113. Another saturated composite sample was collected closer to the water edge at an

approximate depth interval of 0-3 feet bgs from soil borings SB18-114 and SB18-115. These soil borings are located within Area 4 (from 2011 investigation) and are presented on Figure 8 along with the 2011 locations.

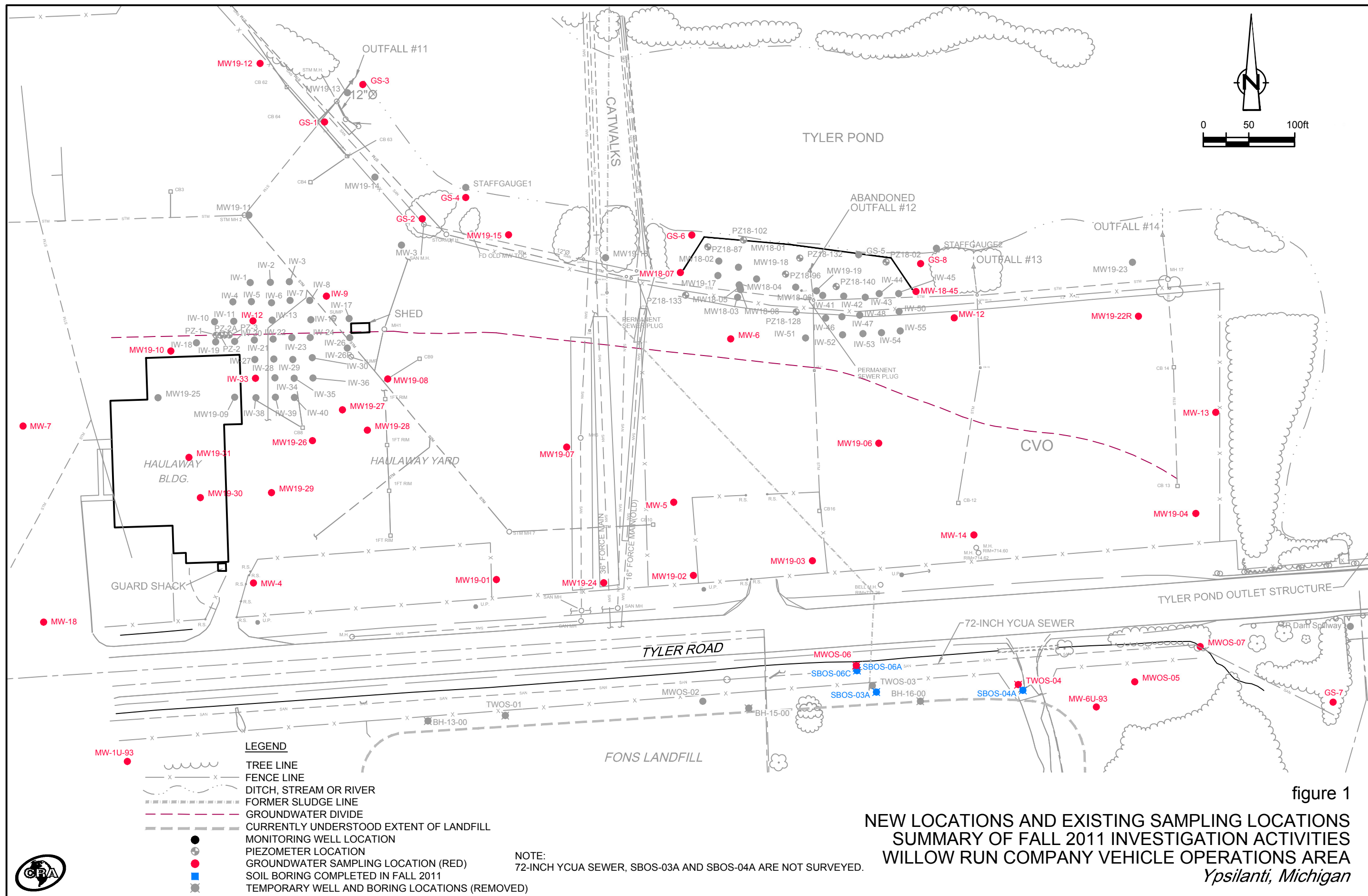
Results:

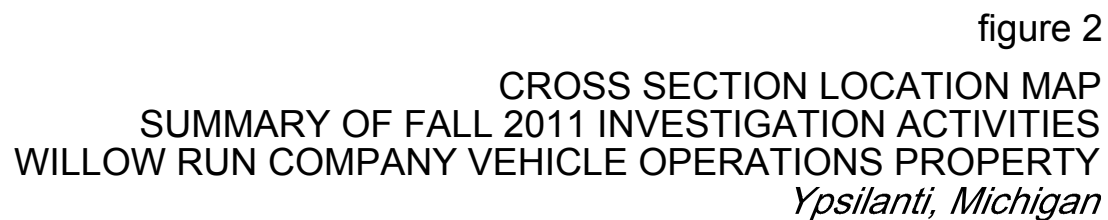
Table 5 presents the waste characterization sampling results. The VOC, SVOC and metals results are compared against the TCLP regulatory limits outlined in 40 CFR 261.24 and the PCB results are screened against a total PCB concentration of 50 ppm. Areas where the results exceed the TCLP regulatory limits are likely to be Resource Conservation Recovery Act (RCRA) hazardous waste once generated if they are not treated to reduce concentrations prior to the point of generation of the waste.

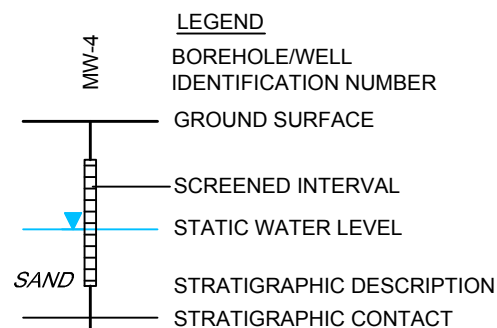
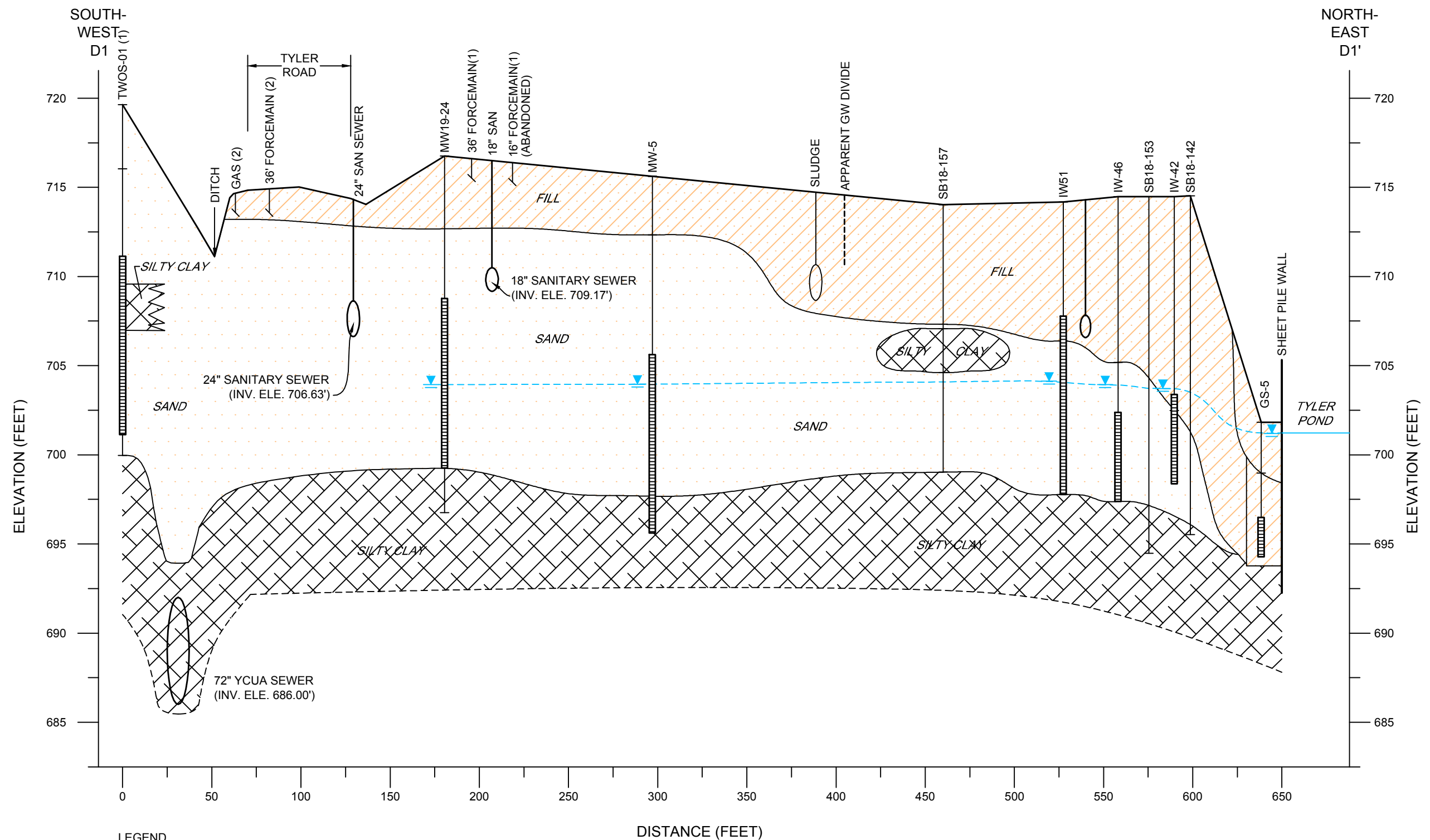
3.0 SUMMARY

Below is a summary of Fall 2011 investigation activities completed at the Site:

- The off-Site migration pathway for the high CVOC concentrations observed at the southern property boundary is unclear. High level detections of CVOCs are not observed at any of the off-Site wells. Underground utilities may be acting as preferential pathways for the impacted groundwater beyond the southern property boundary. A remedial action using chemical oxidation is currently being evaluated for lowering the concentrations of CVOCs in groundwater at the Site. Therefore, no further investigation is planned to be completed to determine the pathway for elevated concentrations.
- Soil and groundwater impacts near the Haulaway building are delineated. The metal concentrations observed in soil and groundwater at the locations may be naturally occurring or due to local/regional conditions.
- Groundwater results from the wells at the Site are consistent with previous groundwater sampling events.
- The anomalies identified in the EM survey are being investigated as a part of the RCRA facility investigation (RFI) field activities.
- Additional data was collected from the soils within PAOC 18 to aid in waste classification planning for analysis of remedial options.







NOTES:

- (1) TEMPORARY WELL TWOS-01 WAS DRY AND WAS ABANDONED IN NOVEMBER 2011.
- (2) DEPTH OF FORCEMAINS AND GAS LINE ARE UNKNOWN.

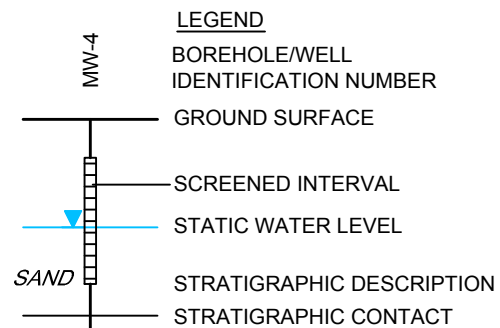
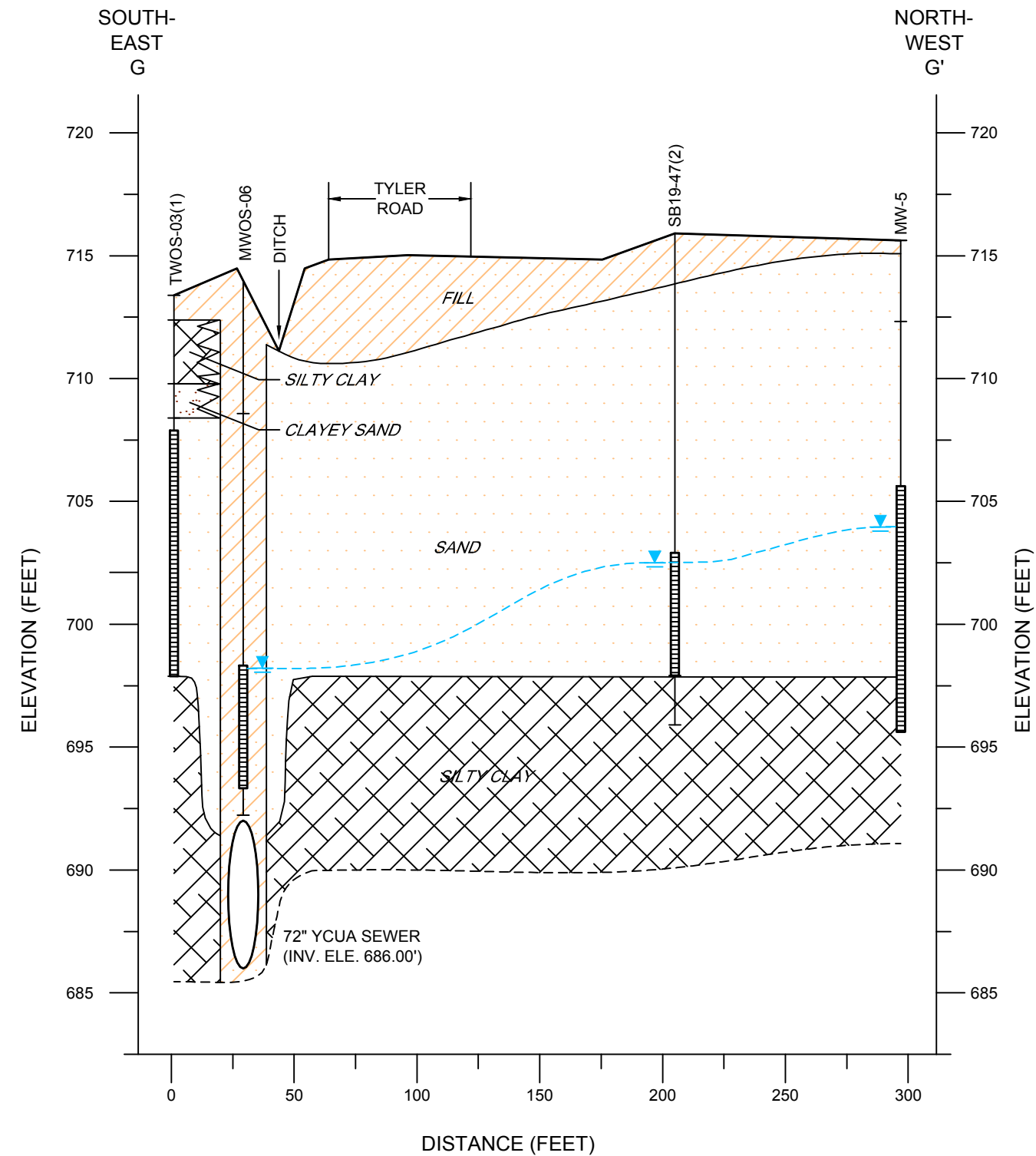
SCALES:

HOR. 1" = 60'
VER. 1" = 6'

figure 3

GEOLOGIC CROSS SECTION D1 - D1'
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS PROPERTY
Ypsilanti, Michigan





NOTES:

- (1) TEMPORARY WELL TWOS-03 WAS DRY AND WAS ABANDONED IN NOVEMBER 2011.
 (2) TEMPORARY WELL WAS INSTALLED.

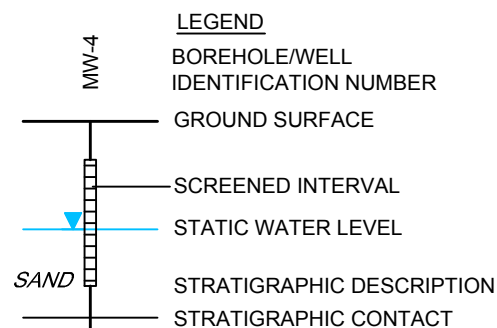
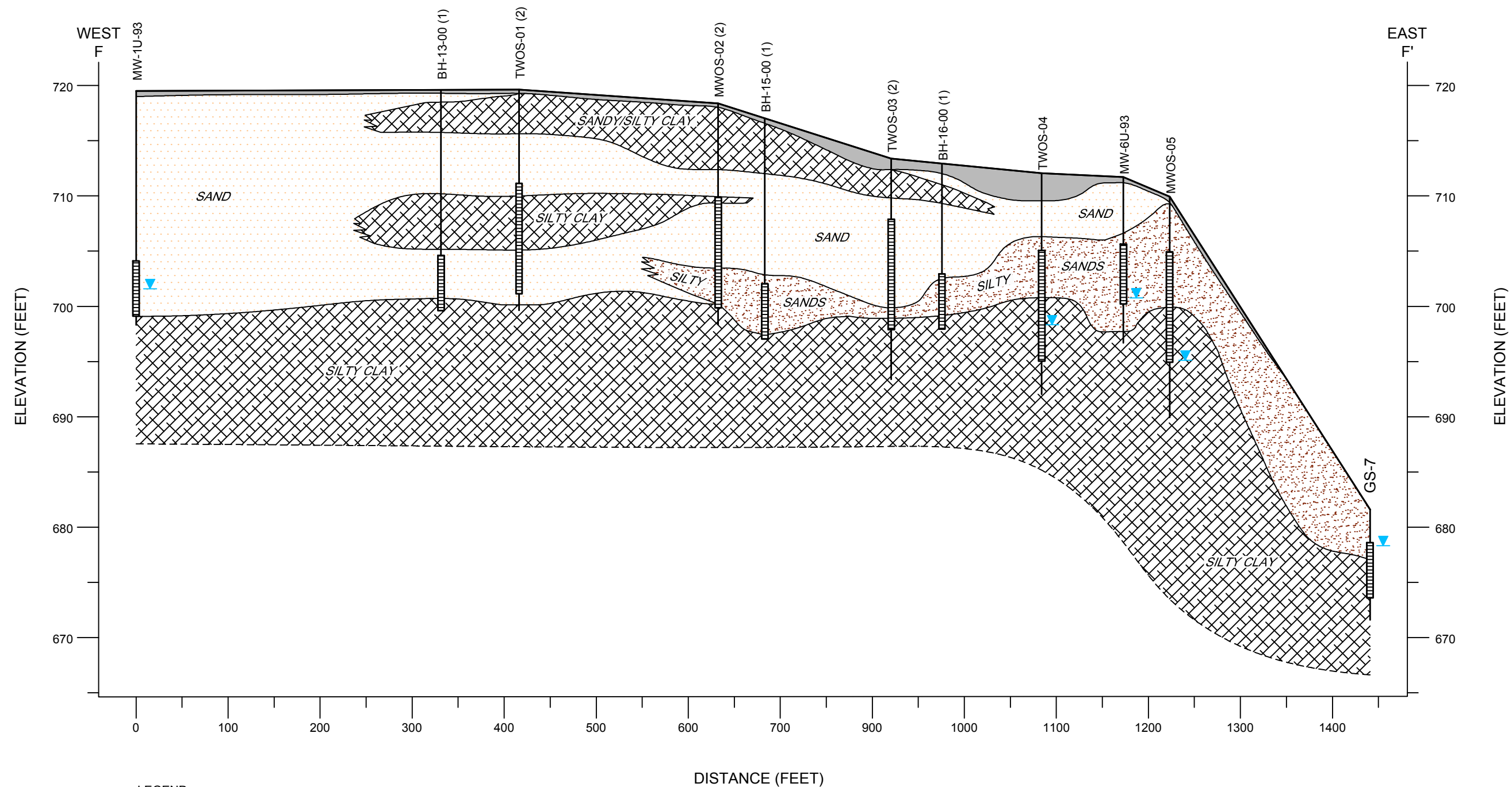
SCALES:

HOR. 1" = 60'
 VER. 1" = 6'

figure 4

GEOLOGIC CROSS SECTION G - G'
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS PROPERTY
Ypsilanti, Michigan





NOTES:

- (1) CONTINUOUS SAMPLES FOR LITHOLOGIC DESCRIPTION NOT COLLECTED. TEMPORARY WELLS WERE INSTALLED AT THESE LOCATIONS.
- (2) DRY WELL
- (3) GROUNDWATER ELEVATIONS WERE RECORDED FALL 2011.
- (4) COULD NOT ACCESS MW-1U-93,
- (5) TEMPORARY WELLS TWOS-01, TWOS-03 AND TWOS-04, WERE ABANDONED IN NOVEMBER 2011.

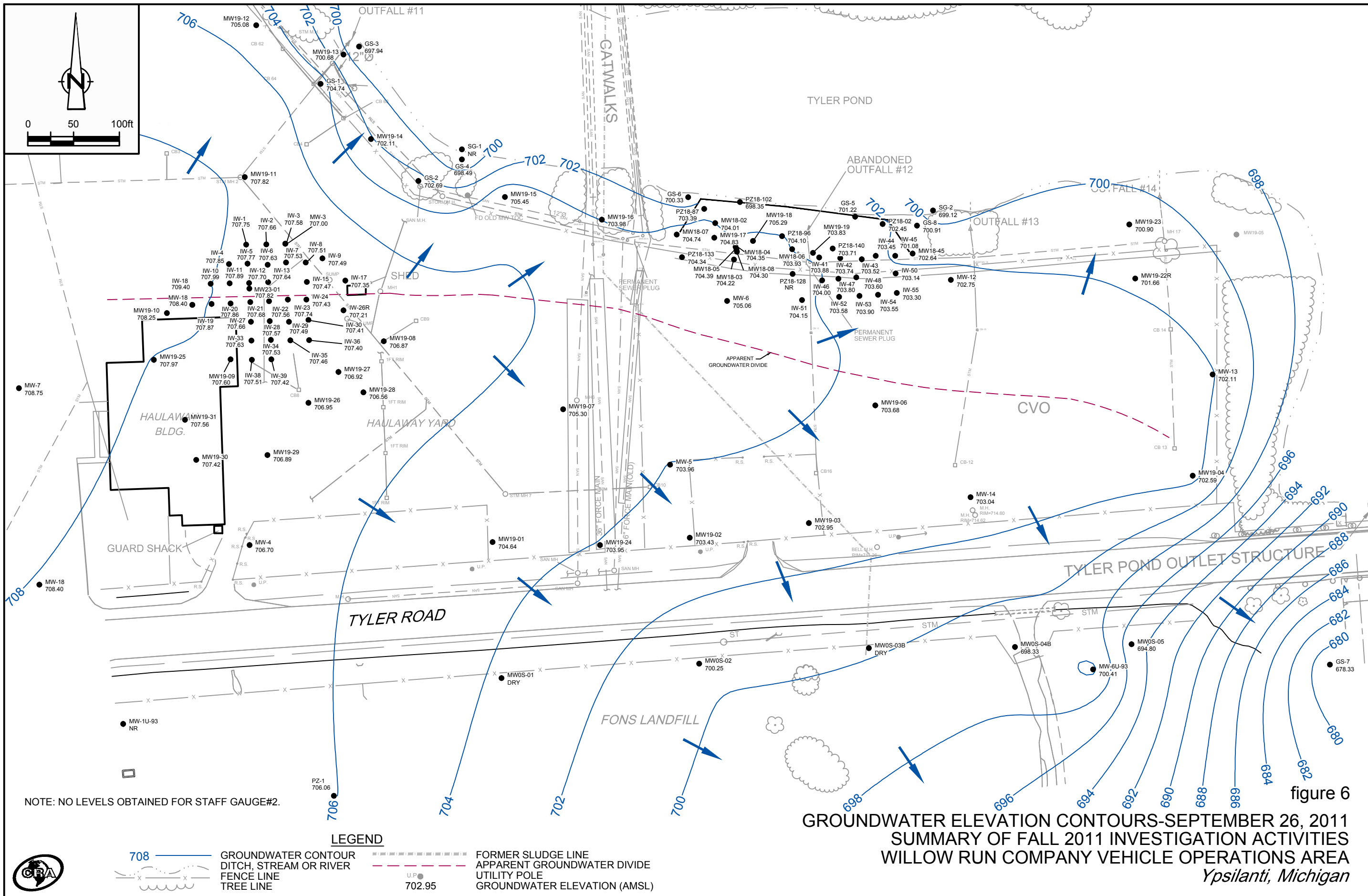
SCALES:

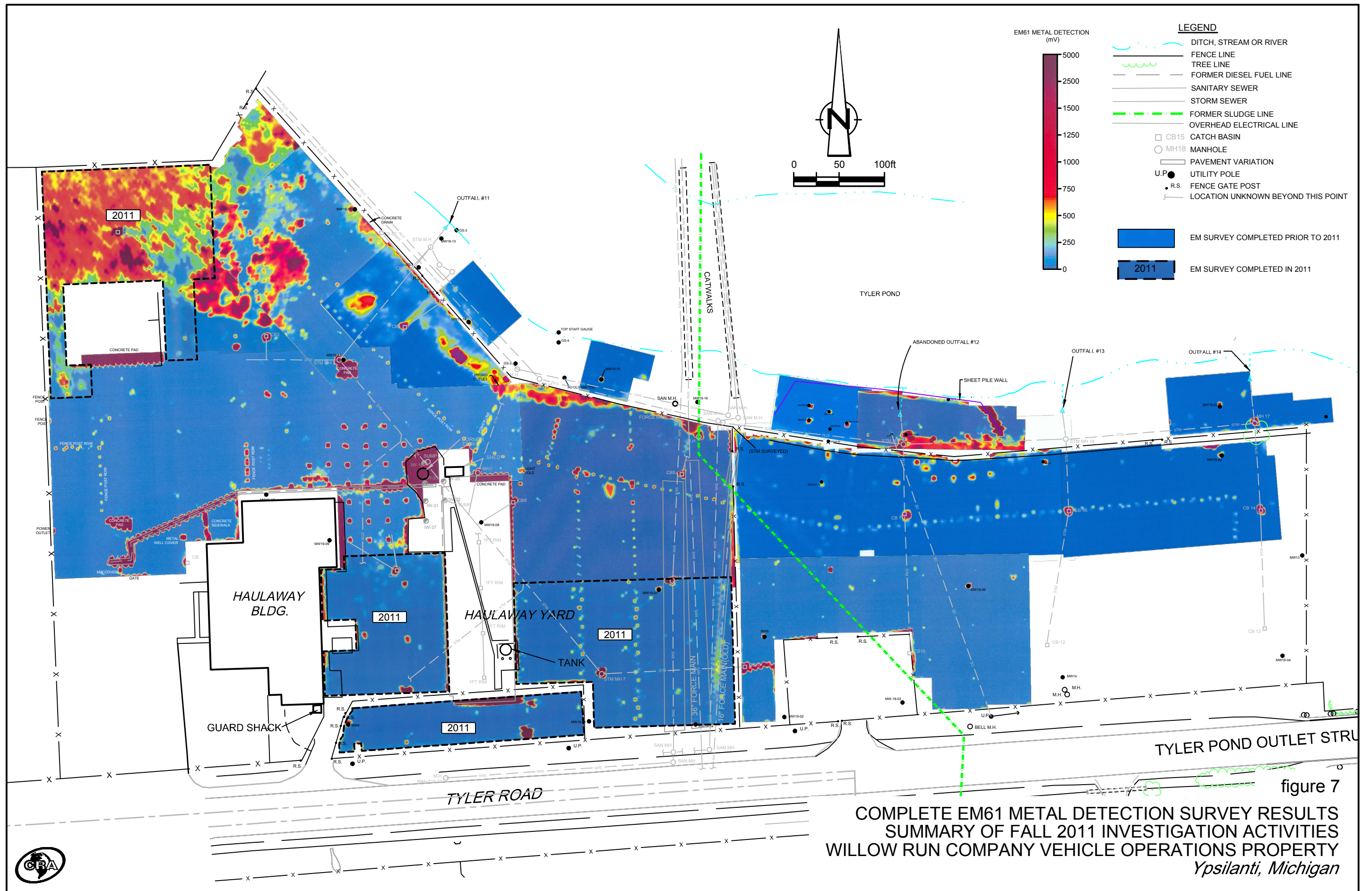
HOR. 1" = 120'
VER. 1" = 10'

figure 5

GEOLOGIC CROSS SECTION F - F'
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS PROPERTY
Ypsilanti, Michigan







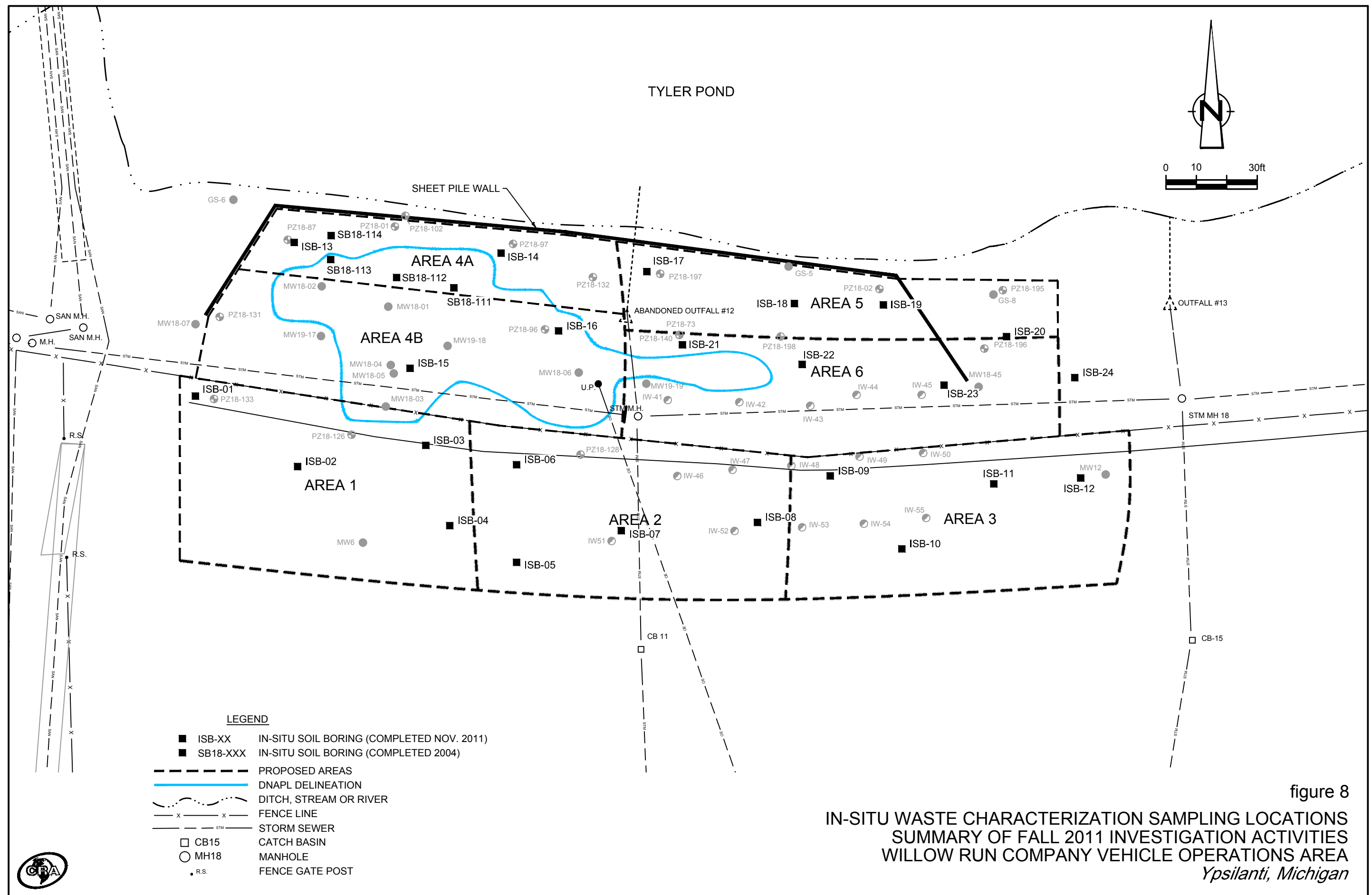


TABLE 1

**GROUNDWATER ELEVATIONS
OFF-SITE INVESTIGATION
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS AREA
YPSILANTI, MI**

Well ID	Well Diameter	Screen Interval (ft bgs)	TOC	Date	DTW (ft bgs)	DTB (ft bgs)	Groundwater Elevation
MW-1U-93	2-inch	15.2-20.2	721.12	-	NR	NR	-
MW-6U-93	2-inch	6.5-11.5	714.53	12/12/2011	13.77	17.90	700.76
TWOS-01	1-inch	8.5-18.5	720.97	9/26/2011	Dry	19.80	-
TWOS-01	1-inch	8.5-18.5	720.97	10/18/2011	Dry	20.01	-
TWOS-02	1-inch	8.5-18.5	719.85	9/27/2011	19.60	NR	700.25
TWOS-02	1-inch	8.5-18.5	719.85	10/18/2011	19.68	19.78	700.17
MWOS-02	2-inch	10-20	721.25	12/2/2011	Dry	23.06	-
MWOS-02	2-inch	10-20	721.25	12/12/2011	Dry	23.10	-
TWOS-03	1-inch	5.5-15.5	718.15	9/26/2011	Dry	19.68	-
TWOS-03	1-inch	5.5-15.5	718.15	10/18/2011	19.44	19.89	698.71
TWOS-04 ¹	1-inch	7-17	714.58	9/27/2011	17.01	NR	697.57
TWOS-04	1-inch	7-17	714.58	9/29/2011	16.44	19.57	698.14
TWOS-04	1-inch	7-17	714.58	10/18/2011	15.12	19.77	699.46
MWOS-05	2-inch	5-15	712.37	9/26/2011	17.57	17.65	694.8
MWOS-05	2-inch	5-15	712.37	10/18/2011	16.97	17.84	695.4
MWOS-06 ¹	2-inch	13-18	711.07	12/2/2011	14.45	17.80	696.62
MWOS-06	2-inch	13-18	711.07	12/12/2011	12.86	18.10	698.21
MWOS-07 ¹	2-inch	8-13	707.9	12/2/2011	10.56	12.72	697.34
MWOS-07	2-inch	8-13	707.9	12/12/2011	7.93	12.94	699.97
GS-7	2-inch	3-8	682.43	9/26/2011	4.10	7.40	678.33
GS-7	2-inch	3-8	682.43	9/28/2011	3.95	7.60	678.48

Notes:

DTW - Depth to Water

DTB - Depth to Bottom

TOC - Top of Casing

ft bgs - feet below ground surface

NR - No reading obtained

¹ The levels are lower since these readings were collected prior to the well development activities.

TABLE 2A

**GROUNDWATER ANALYTICAL RESULTS
OFF-SITE INVESTIGATION
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN**

<i>Sample Location:</i>		<i>Acute Inhalation</i>	<i>Flammability and Explosivity</i>	<i>Groundwater</i>	<i>Groundwater Surface Water</i>	<i>Nonresidential</i>	<i>Nonresidential</i>	<i>Water Solubility</i>	<i>Final</i>	<i>Residential</i>
<i>Sample ID:</i>		<i>Screening Level</i>	<i>Screening Level</i>	<i>Contact Criteria</i>	<i>Interface Criteria</i>	<i>Drinking Water Criteria</i>	<i>Groundwater Volatilization</i>		<i>Acute</i>	<i>Drinking Water Criteria</i>
<i>Sample Date:</i>							<i>to Indoor Air Inhalation Criteria</i>		<i>Value</i>	
<i>Sample Type:</i>										
<i>Parameters</i>	<i>Units</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>
VOCs										
cis-1,2-Dichloroethene	ug/L	ID	530000	200000	620	70 A	210000	3500000	11000	70 A
Trichloroethene	ug/L	1100000 S	ID	22000	200 X	5 A	97000	1100000	3500	5 A
Vinyl chloride	ug/L	ID	33000	1000	13 X	2 A	13000	2760000	17000	2 A

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11.

The Michigan Part 201 criteria footnotes are presented in Attachment B.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity.

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value

TABLE 2A

**GROUNDWATER ANALYTICAL RESULTS
OFF-SITE INVESTIGATION
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN**

<i>Sample Location:</i>		<i>GS-7</i>	<i>MWOS-05</i>	<i>MWOS-06</i>	<i>MWOS-07</i>	<i>MWOS-07</i>	<i>MW-6U-93</i>	<i>TWOS-04</i>
<i>Sample ID:</i>		<i>GW-17303-092811-CB-016</i>	<i>GW-17303-101811-CB-047</i>	<i>GW-17303-121211-EM-001</i>	<i>GW-17303-121211-EM-002</i>	<i>GW-17303-121211-EM-003</i>	<i>GW-17303-121211-EM-004</i>	<i>GW-17303-092911-CB-040</i>
<i>Sample Date:</i>		<i>09/28/2011</i>	<i>10/18/2011</i>	<i>12/12/2011</i>	<i>12/12/2011</i>	<i>12/12/2011</i>	<i>12/12/2011</i>	<i>09/29/2011</i>
<i>Sample Type:</i>		<i>Original</i>	<i>Original</i>	<i>Original</i>	<i>Original</i>	<i>Duplicate</i>	<i>Original</i>	<i>Original</i>
<i>Parameters</i>	<i>Units</i>							
VOCs								
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 J
Trichloroethene	ug/L	0.38 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.62 J
Vinyl chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 J

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11.

The Michigan Part 201 criteria footnotes are presented in Attachment B.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity.

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value

TABLE 2B
SEWER OUTFALL -ANALYTICAL RESULTS
OFF-SITE INVESTIGATION
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample ID: Sample Date: Sample Type: Parameters		Acute Inhalation Screening Level	Flammability and Explosivity Screening Level	Groundwater Contact Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Drinking Water Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	Water Solubility	Final Acute Value	Outfall at the Dam GW-17303-101811-CB-049 10/18/2011 Original
	Units	a	b	c	d	e	f	g	h	
VOCs										
1,1,1-Trichloroethane	ug/L	1300000 S	ID	1300000 S	89	200 A	1300000 S	1330000	1600	1.3 J
1,1,2,2-Tetrachloroethane	ug/L	ID	ID	4700	78 X	35	77000	2970000	1800	2.0 U
1,1,2-Trichloroethane	ug/L	ID	NA	21000	330 X	5 A	110000	4420000	6400	2.0 U
1,1-Dichloroethane	ug/L	ID	380000	2400000	740	2500	2300000	5060000	13000	2.0 U
1,1-Dichloroethene	ug/L	140000	97000	11000	130	7 A	1300	2250000	2300	2.0 U
1,2,4-Trichlorobenzene	ug/L	300000 S	NA	19000	99 X	70 A	300000 S	300000	200	2.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ID	NA	390	NA	0.2 A	1200 S	1230		2.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ID	ID	25	5.7 X	0.05 A	15000	4200000	280	2.0 U
1,2-Dichlorobenzene	ug/L	160000 S	NA	160000 S	13	600 A	160000 S	156000	240	2.0 U
1,2-Dichloroethane	ug/L	ID	2500000	19000	360 X	5 A	59000	8520000	16000	2.0 U
1,2-Dichloropropane	ug/L	2800000 S	550000	16000	230 X	5 A	36000	2800000	4000	2.0 U
1,3-Dichlorobenzene	ug/L	ID	ID	2000	28	19	41000	111000	200	2.0 U
1,4-Dichlorobenzene	ug/L	ID	NA	6400	17	75 A	74000 S	73800	210	2.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	240000000 S	ID	240000000 S	2200	38000	240000000 S	240000000	40000	20 U
2-Hexanone	ug/L	ID	NA	5200000	ID	2900	8700000	16000000	ID	20 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20000000 S	ID	13000000	ID	5200	20000000 S	20000000	ID	20 U
Acetone	ug/L	1000000000 D	15000000	31000000	1700	2100	1000000000 D,S	1000000000	30000	20 U
Benzene	ug/L	67000	68000	11000	200 X	5 A	35000	1750000	1900	2.0 U
Bromodichloromethane	ug/L	ID	ID	14000	ID	80 A,W	37000	6740000	ID	2.0 U
Bromoform	ug/L	ID	ID	140000	ID	80 A,W	3100000 S	3100000	ID	2.0 U
Bromomethane (Methyl bromide)	ug/L	ID	ID	70000	35	29	9000	14500000	640	2.0 U
Carbon disulfide	ug/L	ID	13000	1200000 S	ID	2300	550000	1190000	ID	10 U
Carbon tetrachloride	ug/L	96000	ID	4600	45 X	5 A	2400	793000	1400	2.0 U
Chlorobenzene	ug/L	ID	160000	86000	25	100 A	470000 S	472000	450	2.0 U
Chloroethane	ug/L	ID	110000	440000	1100 X	1700	5700000 S	5740000	20000	2.0 U
Chloroform (Trichloromethane)	ug/L	ID	ID	150000	350	80 A,W	180000	7920000	11000	2.0 U
Chloromethane (Methyl chloride)	ug/L	210000	36000	490000	ID	1100	45000	6340000	ID	2.0 U
cis-1,2-Dichloroethene	ug/L	ID	530000	200000	620	70 A	210000	3500000	11000	22
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	2.0 U
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	2.0 U
Dibromochloromethane	ug/L	ID	ID	18000	ID	80 A,W	110000	2600000	ID	2.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	ID	ID	300000 S	ID	4800	300000 S	300000	ID	2.0 U
Ethylbenzene	ug/L	170000 S	43000	170000 S	18	74 E	170000 S	169000	320	2.0 U
Isopropyl benzene	ug/L	ID	29000	56000 S	28	2300	56000 S	56000	500	2.0 U
Methyl acetate	ug/L	ID	ID	ID	ID	ID	ID	ID	ID	20 U
Methyl cyclohexane	ug/L	ID	ID	ID	ID	ID	ID	ID	ID	2.0 U
Methyl tert butyl ether (MTBE)	ug/L	ID	ID	610000	7100 X	40 E	47000000 S	46800000	420000	10 U
Methylene chloride	ug/L	ID	ID	220000	1500 X	5 A	1400000	17000000	17000	10 U
Styrene	ug/L	310000 S	140000	9700	80	100 A	310000 S	310000	2900	2.0 U
Tetrachloroethene	ug/L	200000 S	ID	12000	60 X	5 A	170000	200000	2900	2.0 U
Toluene	ug/L	ID	61000	530000 S	270	790 E	530000 S	526000	2600	2.0 U
trans-1,2-Dichloroethene	ug/L	ID	230000	220000	1500 X	100 A	200000	6300000	28000	2.0 U
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	2.0 U
Trichloroethene	ug/L	1100000 S	ID	22000	200 X	5 A	97000	1100000	3500	2.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1100000 S	ID	1100000 S	NA	7300	1100000 S	1100000	NA	2.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	170000 S	ID	170000 S	32	170000 S	170000 S	170000	570	2.0 U
Vinyl chloride	ug/L	ID	33000	1000	13 X	2 A	13000	2760000	17000	39 ^{de}
Xylenes (total)	ug/L	190000 S	70000	190000 S	41	280 E	190000 S	186000	730	4.0 U

Notes:
The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11.
The Michigan Part 201 criteria footnotes are presented in Attachment B.
NA - Criteria not available
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J - The associated value is qualified as an estimated quantity.
UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

TABLE 3
SOIL ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type: Parameters	Statewide Default Background Levels	Nonresidential Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Direct Contact Criteria	Nonresidential Drinking Water Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Particulate Soil Inhalation Criteria	Groundwater Contact Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Soil Saturation Concentration Screening Levels	MW19-29 0-2 ft BGS SO-17303-092111-CB-001 09/21/2011 Original
Units	a	b	c	d	e	f	g	h	i	j	k	
VOCs												
1,1,1-Trichloroethane	ug/kg	NA	31000000	15000000	4500000	460000 C	4000	460000	29000000000	460000 C	460000	42 U
1,1,2,2-Tetrachloroethane	ug/kg	NA	34000	34000	34000	240000	700	23000	68000000	94000	870000	42 U
1,1,2-Trichloroethane	ug/kg	NA	120000	57000	57000	840000	100	24000	250000000	420000	920000	42 U
1,1-Dichloroethane	ug/kg	NA	14000000	6000000	2500000	890000 C	50000	430000	15000000000	890000 C	890000	42 U
1,1-Dichloroethene	ug/kg	NA	37000	15000	3700	570000 C	140	330	78000000	220000	570000	42 U
1,2,4-Trichlorobenzene	ug/kg	NA	34000000	34000000	34000000	1100000 C,DD	4200	1100000 C	11000000000	1100000 C	5900 X	21 J
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	NA	15000	15000	15000	1200 C	10 M	1200 C	5900000	1200 C	ID	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	NA	9800	5800	5800	430	20 M	3600	18000000	500	110 X	210 U
1,2-Dichlorobenzene	ug/kg	NA	55000000	46000000	46000000	210000 C	14000	210000 C	44000000000	210000 C	280	85 U
1,2-Dichloroethane	ug/kg	NA	74000	33000	21000	420000	100	11000	150000000	380000	7200 X	42 U
1,2-Dichloropropane	ug/kg	NA	120000	51000	30000	550000 C	100	7400	120000000	320000	4600 X	42 U
1,3-Dichlorobenzene	ug/kg	NA	110000	94000	94000	170000 C	480	48000	8800000	51000	680	85 U
1,4-Dichlorobenzene	ug/kg	NA	340000	260000	260000	1900000	1700	100000	570000000	140000	360	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	NA	36000000	35000000	35000000	27000000 C,DD	760000	27000000 C	29000000000	27000000 C	44000	630 U
2-Hexanone	ug/kg	NA	1500000	1300000	1300000	2500000 C	58000	1800000	1200000000	2500000 C	ID	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	NA	70000000	53000000	53000000	2700000 C	100000	2700000 C	60000000000	2700000 C	ID	2100 U
Acetone	ug/kg	NA	200000000	160000000	160000000	73000000	42000	110000000 C	170000000000	110000000 C	34000	630 U
Benzene	ug/kg	NA	230000	99000	45000	400000 C	100	8400	470000000	220000	4000 X	42 U
Bromodichloromethane	ug/kg	NA	57000	31000	31000	490000	1600 W	6400	110000000	280000	ID	85 U
Bromoform	ug/kg	NA	3100000	3100000	3100000	870000 C	1600 W	770000	3600000000	870000 C	ID	85 U
Bromomethane (Methyl bromide)	ug/kg	NA	140000	57000	13000	1000000	580	1600	150000000	1400000	700	210 U
Carbon disulfide	ug/kg	NA	19000000	8000000	1600000	280000 C,DD	46000	140000	21000000000	280000 C	ID	210 U
Carbon tetrachloride	ug/kg	NA	79000	34000	12000	390000 C	100	990	170000000	92000	900 X	42 U
Chlorobenzene	ug/kg	NA	2100000	1100000	920000	260000 C	2000	220000	2100000000	260000 C	500	42 U
Chloroethane	ug/kg	NA	280000000	120000000	36000000	950000 C	34000	950000 C	290000000000	950000 C	22000 X	210 U
Chloroform (Trichloromethane)	ug/kg	NA	790000	340000	150000	1500000 C	1600 W	38000	160000000	1500000 C	7000	42 U
Chloromethane (Methyl chloride)	ug/kg	NA	2500000	1000000	120000	1100000 C	22000	10000	2600000000	1100000 C	ID	210 U
cis-1,2-Dichloroethene	ug/kg	NA	1000000	430000	210000	640000 C	1400	41000	1000000000	640000 C	12000	42 U
cis-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42 U
Cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U
Dibromochloromethane	ug/kg	NA	98000	80000	80000	500000	1600 W	21000	160000000	360000	ID	42 U
Dichlorodifluoromethane (CFC-12)	ug/kg	NA	1400000000	550000000	63000000	1000000 C	270000	1700000	1500000000000	1000000 C	ID	85 U
Ethylbenzene	ug/kg	NA	6500000	3100000	2400000	140000 C	1500	140000 C	13000000000	140000 C	360	42 U
Isopropyl benzene	ug/kg	NA	3000000	2000000	2000000	390000 C	260000	390000 C	2600000000	390000 C	3200	210 U
Methyl acetate	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U
Methyl cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23 J
Methyl tert butyl ether (MTBE)	ug/kg	NA	89000000	41000000	30000000	5900000 C	800	5900000 C	88000000000	5900000 C	140000 X	210 U
Methylene chloride	ug/kg	NA	4000000	1700000	700000	2300000 C	100	240000	8300000000	2300000 C	30000 X	210 U
Styrene	ug/kg	NA	4200000	3300000	3300000	520000 C	2700	520000 C	6900000000	270000	2100 X	42 U
Tetrachloroethene	ug/kg	NA	3300000	1400000	600000	88000 C	100	60000	6800000000	88000 C	1200 X	18 J
Toluene	ug/kg	NA	36000000	36000000	3300000	250000 C	16000	250000 C	12000000000	250000 C	5400	85 U
trans-1,2-Dichloroethene	ug/kg	NA	2000000	840000	330000	1400000 C	2000	43000	210000000	1400000 C	30000 X	42 U
trans-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42 U
Trichloroethene	ug/kg	NA	1100000	440000	260000	500000 C,DD	100	37000	2300000000	440000	4000 X	42 U
Trichlorofluoromethane (CFC-11)	ug/kg	NA	140000000000	140000000000	110000000	560000 C	150000	560000 C	1700000000000	560000 C	560000	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	NA	2100000000	890000000	210000000	550000 C	550000 C	550000 C	2300000000000	550000 C	1700	210 U
Vinyl chloride	ug/kg	NA	420000	170000	29000	4000000 C,DD	40	2800	8900000000	20000	260 X	34 U
Xylenes (total)	ug/kg	NA	130000000	65000000	54000000	150000 C	5600	150000 C	13000000000	150000 C	820	130 U
SVOCs												
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
2,4,5-Trichlorophenol	ug/kg	NA	NLV	NLV	NLV	73000000	110000	NLV	10000000000	9100000	NA	300 U
2,4,6-Trichlorophenol	ug/kg	NA	NLV	NLV	NLV	3300000	9400	NLV	1300000000	200000	330 M	300 U
2,4-Dichlorophenol	ug/kg	NA	NLV	NLV	NLV	1800000 C,DD	4200	NLV	2300000000	960000	330 M	300 U
2,4-Dimethylphenol	ug/kg	NA	NLV	NLV	NLV	36000000	20000	NLV	2100000000	10000000	7600	300 U

TABLE 3
SOIL ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	Statewide Default	Nonresidential	Nonresidential	Nonresidential	Nonresidential	Nonresidential	Nonresidential	Nonresidential	Nonresidential	Groundwater	Groundwater Surface	Soil Saturation	MW19-29
Sample Depth:	Background Levels	Finite VSIC for 2 Meter	Finite VSIC for 5 Meter	Infinite Source Volatile	Direct Contact	Drinking Water	Soil Volatilization to	Particulate Soil	Contact Protection	Water Interface	Concentration	0-2 ft BGS	
Sample ID:		Source Thickness	Source Thickness	Soil Inhalation Criteria (VSIC)	Criteria	Protection Criteria	Indoor Air Inhalation Criteria	Inhalation Criteria	Criteria	Protection Criteria	Screening Levels	SO-17303-092111-CB-001	
Sample Date:												09/21/2011	
Sample Type:												Original	
Parameters	Units	a	b	c	d	e	f	g	h	i	j	k	
2,4-Dinitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	170 U
2,4-Dinitrotoluene	ug/kg	NA	NLV	NLV	NLV	220000	640	NLV	20000000	170000	NA	NA	300 U
2,6-Dinitrotoluene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
2-Chloronaphthalene	ug/kg	NA	ID	ID	ID	180000000	1800000	ID	ID	2300000	NA	NA	300 U
2-Chlorophenol	ug/kg	NA	1100000	1100000	1100000	4500000	2600	800000	530000000	1900000	360	190000000	300 U
2-Methylnaphthalene	ug/kg	NA	1800000	1800000	1800000	26000000	170000	4900000	290000000	5500000	4200	NA	15 J
2-Methylphenol	ug/kg	NA	NLV	NLV	NLV	36000000	20000	NLV	2900000000	16000000	1000 M	NA	300 U
2-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U
2-Nitrophenol	ug/kg	NA	NLV	NLV	NLV	2000000	1200	NLV	ID	1600000	ID	NA	300 U
3&4-Methylphenol	ug/kg	NA	NLV	NLV	NLV	36000000	20000	NLV	29000000000	16000000	1000 M	NA	300 U
3,3'-Dichlorobenzidine	ug/kg	NA	NLV	NLV	NLV	30000	2000 M	NLV	8200000	4600	2000 M	NA	1800 U
3-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U
4,6-Dinitro-2-methylphenol	ug/kg	NA	NLV	NLV	NLV	260000	830 M	NLV	ID	190000	NA	NA	170 U
4-Bromophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
4-Chloro-3-methylphenol	ug/kg	NA	NLV	NLV	NLV	15000000	16000	NLV	ID	3000000	280	NA	300 U
4-Chloroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U
4-Chlorophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
4-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U
4-Nitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370 U
Acenaphthene	ug/kg	NA	97000000	97000000	97000000	130000000	880000	350000000	6200000000	970000	8700	NA	300 U
Acenaphthylene	ug/kg	NA	2700000	2700000	2700000	5200000	17000	3000000	1000000000	440000	ID	NA	3.9 J
Acetophenone	ug/kg	NA	52000000	52000000	52000000	1100000 C	88000	1100000 C	14000000000	1100000 C	ID	1100000	300 U
Anthracene	ug/kg	NA	1600000000	1600000000	1600000000	730000000	41000	1000000000 D	29000000000	41000	ID	NA	300 U
Atrazine	ug/kg	NA	NLV	NLV	NLV	330000 DD	60	NLV	ID	110000	150	NA	45 U
Benzaldehyde	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
Benzo(a)anthracene	ug/kg	NA	NLV	NLV	NLV	80000	NLL	NLV	ID	NLL	NLL	NA	23 J
Benzo(a)pyrene	ug/kg	NA	NLV	NLV	NLV	8000	NLL	NLV	1900000	NLL	NLL	NA	28 J
Benzo(b)fluoranthene	ug/kg	NA	ID	ID	ID	80000	NLL	ID	ID	NLL	NLL	NA	39 J
Benzo(g,h,i)perylene	ug/kg	NA	NLV	NLV	NLV	7000000	NLL	NLV	350000000	NLL	NLL	NA	29 J
Benzo(k)fluoranthene	ug/kg	NA	NLV	NLV	NLV	800000	NLL	NLV	ID	NLL	NLL	NA	20 J
Biphenyl (1,1-Biphenyl)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
bis(2-Chloroethoxy)methane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300 U
bis(2-Chloroethyl)ether	ug/kg	NA	13000	13000	13000	58000	170	44000	12000000	110000	100 M	2200000	90 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	NA	NLV	NLV	NLV	10000000 C	NLL	NLV	890000000	NLL	NLL	10000000	31 J
Butyl benzylphthalate (BBP)	ug/kg	NA	NLV	NLV	NLV	310000 C	310000 C	NLV	21000000000	310000 C	120000 X	310000	300 U
Caprolactam	ug/kg	NA	NLV	NLV	NLV	31000000 DD	340000	NLV	290000000	1000000000 D	NA	NA	300 U
Carbazole	ug/kg	NA	NLV	NLV	NLV	2400000	39000	NLV	78000000	820000	1100	NA	300 U
Chrysene	ug/kg	NA	ID	ID	ID	8000000	NLL	ID	ID	NLL	NLL	NA	31 J
Dibenz(a,h)anthracene	ug/kg	NA	NLV	NLV	NLV	8000	NLL	NLV	ID	NLL	NLL	NA	9.5 J
Dibenzofuran	ug/kg	NA	160000	160000	160000	ID	ID	3600000	2900000	ID	1700	NA	300 U
Diethyl phthalate	ug/kg	NA	NLV	NLV	NLV	740000 C	320000	NLV	1500000000	740000 C	2200	740000	300 U
Dimethyl phthalate	ug/kg	NA	NLV	NLV	NLV	790000 C	790000 C	NLV	1500000000	790000 C		790000	300 U
Di-n-butylphthalate (DBP)	ug/kg	NA	NLV	NLV	NLV	760000 C	760000 C	NLV	1500000000	760000 C	11000	760000	300 U
Di-n-octyl phthalate (DnOP)	ug/kg	NA	NLV	NLV	NLV	20000000	14000000 C	NLV	14000000000	140000000 C	ID	140000000	300 U
Fluoranthene	ug/kg	NA	880000000	880000000	890000000	130000000	730000	1000000000 D	4100000000	730000	5500	NA	36 J
Fluorene	ug/kg	NA	150000000	150000000	150000000	87000000	890000	1000000000 D	4100000000	890000	5300	NA	300 U
Hexachlorobenzene	ug/kg	NA	56000	56000	56000	37000	1800	220000	8500000	8200	350	NA	300 U
Hexachlorobutadiene	ug/kg	NA	460000	460000	460000	350000 C	72000	350000 C	180000000	350000 C	91	350000	45 U
Hexachlorocyclopentadiene	ug/kg	NA	60000	60000	60000	720000 C	320000	56000	5900000	720000 C	ID	720000	300 U
Hexachloroethane	ug/kg	NA	1400000	1400000	660000	730000	1200	79000	100000000	110000	1800 X	NA	300 U
Indeno(1,2,3-cd)pyrene	ug/kg	NA	NLV	NLV	NLV	80000	NLL	NLV	ID	NLL	NLL	NA	20 J
Isophorone	ug/kg	NA	NLV	NLV	NLV	2400000 C	62000	NLV	8200000000	2400000 C	26000 X	2400000	300 U
Naphthalene	ug/kg	NA	350000	350000	350000	52000000	100000	470000	88000000	2100000	730	NA	300 U
Nitrobenzene	ug/kg	NA	64000	64000	64000	340000	330 M	170000	21000000	220000	3600 X	490000	300 U
N-Nitrosodi-n-propylamine	ug/kg	NA	NLV	NLV	NLV	5400	330 M	NLV	2000000	7200	NA	1500000	300 U
N-Nitrosodiphenylamine	ug/kg	NA	NLV	NLV	NLV	7800000	22000	NLV	2800000000	700000	NA	NA	300 U
Pentachlorophenol	ug/kg	NA	NLV	NLV	NLV	320000	22	NLV	130000000	4300	26500	NA	170 U
Phenanthrene	ug/kg	NA	190000	190000	190000	5200000	160000	5100000	2900000	1100000	2100	NA	16 J
Phenol	ug/kg	NA	NLV	NLV	NLV	12000000 C,DD	260000	NLV	18000000000	12000000 C	9000	12000000	300 U
Pyrene	ug/kg	NA	780000000	780000000	780000000	84000000	480000	1000000000 D	2900000000	480000	ID	NA	35 J

TABLE 3
SOIL ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type: Parameters		Statewide Default Background Levels	Nonresidential Finite VSIC for 2 Meter Source Thickness	Nonresidential Finite VSIC for 5 Meter Source Thickness	Nonresidential Infinite Source Volatile Soil Inhalation Criteria (VSIC)	Nonresidential Direct Contact Criteria	Nonresidential Drinking Water Protection Criteria	Nonresidential Soil Volatilization to Indoor Air Inhalation Criteria	Nonresidential Particulate Soil Inhalation Criteria	Groundwater Contact Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Soil Saturation Concentration Screening Levels	MW19-29 0-2 ft BGS SO-17303-092111-CB-001 09/21/2011 Original
Metals	Units	a	b	c	d	e	f	g	h	i	j	k	
Antimony	mg/kg	NA	NLV	NLV	NLV	670000	4300	NLV	5900000	49000000	94000 X	NA	210 J
Arsenic	mg/kg	5800	NLV	NLV	NLV	37000	4600	NLV	910000	2000000	4600	NA	4800
Barium	mg/kg	75000	NLV	NLV	NLV	130000000	1300000	NLV	150000000	1000000000 D	1250000	NA	25000
Beryllium	mg/kg	NA	NLV	NLV	NLV	1600000	51000	NLV	590000	1000000000 D	948000	NA	250
Cadmium	mg/kg	1200	NLV	NLV	NLV	2100000	6000	NLV	2200000	230000000	7320	NA	130
Chromium	mg/kg	NA	NLV	NLV	NLV	9200000	30000	NLV	240000	140000000	3300	NA	10000 ^j
Cobalt	mg/kg	6800	NLV	NLV	NLV	9000000	2000	NLV	5900000	48000000	2000	NA	3400
Copper	mg/kg	32000	NLV	NLV	NLV	73000000	5800000	NLV	59000000	1000000000 D	167000	NA	18000
Lead	mg/kg	21000	NLV	NLV	NLV	900000 DD	700000	NLV	44000000	ID	7740000	NA	7500
Manganese	mg/kg	440000	NLV	NLV	NLV	90000000	1000	NLV	1500000	180000000	128000	NA	340000
Mercury	mg/kg	130	62000	62000	62000	580000	1700	89000	8800000	47000	50 M	NA	21 J
Nickel	mg/kg	20000	NLV	NLV	NLV	150000000	100000	NLV	16000000	1000000000 D	166000	NA	9300
Selenium	mg/kg	410	NLV	NLV	NLV	9600000	4000	NLV	59000000	78000000	400	NA	370
Silver	mg/kg	1000	NLV	NLV	NLV	9000000	13000	NLV	2900000	200000000	100 M	NA	17 J
Thallium	mg/kg	NA	NLV	NLV	NLV	130000	2300	NLV	5900000	15000000	4200 X	NA	230
Vanadium	mg/kg	NA	NLV	NLV	NLV	5500000 DD	990000	NLV	ID	1000000000 D	190000	NA	12000
Zinc	mg/kg	47000	NLV	NLV	NLV	630000000	5000000	NLV	ID	1000000000 D	377000	NA	24000
PCBs													
Aroclor-1016 (PCB-1016)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1221 (PCB-1221)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1232 (PCB-1232)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1242 (PCB-1242)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1248 (PCB-1248)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1254 (PCB-1254)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	37 U
Aroclor-1260 (PCB-1260)	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	51
Total PCBs	ug/kg	NA	28000000	28000000	810000	16000 T	NLL	16000000	6500000	NLL	NLL	NA	51

Notes:
The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11
The Michigan Part 201 criteria footnotes are presented in Attachment B.
NA - Criteria not available
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit
J - The associated value is qualified as an estimated quantity
UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

TABLE 3

SOIL ANALYTICAL RESULTS

DELINEATION BENEATH HAULAWAY BUILDING

SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES

WILLOW RUN COMPANY VEHICLE OPERATIONS

YPSILANTI, MICHIGAN

Sample Location:	MW19-29	MW19-29	MW19-29	MW19-30	MW19-30	MW19-30	MW19-31	MW19-31	MW19-31
Sample Depth:	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS
Sample ID:	SO-17303-092111-CB-002	SO-17303-092111-CB-003	SO-17303-092111-CB-004	SO-17303-092111-CB-005	SO-17303-092111-CB-006	SO-17303-092111-CB-007	SO-17303-092111-CB-008	SO-17303-092111-CB-009	SO-17303-092111-CB-010
Sample Date:	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011
Sample Type:	Duplicate	Original	Original	Original	Original	Original	Original	Original	Original
Parameters	Units								
VOCs									
1,1,1-Trichloroethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,1,2,2-Tetrachloroethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,1,2-Trichloroethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,1-Dichloroethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,1-Dichloroethene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,2,4-Trichlorobenzene	ug/kg	230 U	230 U	220 U	230 U	240 U	25 J	220 U	210 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
1,2-Dibromoethane (Ethylene dibromide)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
1,2-Dichlorobenzene	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
1,2-Dichloroethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,2-Dichloropropane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
1,3-Dichlorobenzene	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
1,4-Dichlorobenzene	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/kg	55 J	51 J	650 U	100 J	79 J	660 U	64 J	56 J
2-Hexanone	ug/kg	2300 U	2300 U	2200 U	2300 U	2400 U	2200 U	2200 U	2100 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/kg	2300 U	2300 U	2200 U	2300 U	2400 U	2200 U	2200 U	2100 U
Acetone	ug/kg	680 U	690 U	650 U	700 U	720 U	660 U	650 U	640 U
Benzene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Bromodichloromethane	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
Bromoform	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
Bromomethane (Methyl bromide)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Carbon disulfide	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Carbon tetrachloride	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Chlorobenzene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Chloroethane	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Chloroform (Trichloromethane)	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Chloromethane (Methyl chloride)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
cis-1,2-Dichloroethene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
cis-1,3-Dichloropropene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Cyclohexane	ug/kg	1100 U	1100 U	1000 U	1100 U	1100 U	1100 U	1000 U	1000 U
Dibromochloromethane	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Dichlorodifluoromethane (CFC-12)	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
Ethylbenzene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Isopropyl benzene	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Methyl acetate	ug/kg	1100 U	1100 U	34 J	31 J	1100 U	1100 U	1000 U	1000 U
Methyl cyclohexane	ug/kg	1100 U	1100 U	1000 U	1100 U	1100 U	1100 U	1000 U	1000 U
Methyl tert butyl ether (MTBE)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Methylene chloride	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Styrene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Tetrachloroethene	ug/kg	16 J	46 U	43 U	47 U	48 U	16 J	14 J	43 U
Toluene	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
trans-1,2-Dichloroethene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
trans-1,3-Dichloropropene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	43 U
Trichloroethene	ug/kg	45 U	46 U	43 U	47 U	48 U	44 U	43 U	12 J
Trichlorofluoromethane (CFC-11)	ug/kg	91 U	91 U	87 U	94 U	95 U	88 U	86 U	85 U
Trifluorotrichloroethane (Freon 113)	ug/kg	230 U	230 U	220 U	230 U	240 U	220 U	220 U	210 U
Vinyl chloride	ug/kg	36 U	37 U	35 U	37 U	38 U	34 U	35 U	34 U
Xylenes (total)	ug/kg	140 U	140 U	130 U	140 U	140 U	130 U	130 U	130 U
SVOCs									
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/kg	300 U	280 U	290 U	270 U	290 U	290 U	280 U	280 U
2,4,5-Trichlorophenol	ug/kg	300 U	280 U	290 U	270 U	290 U	290 U	280 U	280 U
2,4,6-Trichlorophenol	ug/kg	300 U	280 U	290 U	270 U	290 U	290 U	280 U	280 U
2,4-Dichlorophenol	ug/kg	300 U	280 U	290 U	270 U	290 U	290 U	280 U	280 U
2,4-Dimethylphenol	ug/kg	300 U	280 U	290 U	270 U	290 U	290 U	280 U	280 U

SOIL ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	MW19-29	MW19-29	MW19-29	MW19-30	MW19-30	MW19-30	MW19-31	MW19-31	MW19-31
Sample Depth:	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS
Sample ID:	SO-17303-092111-CB-002	SO-17303-092111-CB-003	SO-17303-092111-CB-004	SO-17303-092111-CB-005	SO-17303-092111-CB-006	SO-17303-092111-CB-007	SO-17303-092111-CB-008	SO-17303-092111-CB-009	SO-17303-092111-CB-010
Sample Date:	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011
Sample Type:	Duplicate	Original	Original	Original	Original	Original	Original	Original	Original
Parameters	Units								
2,4-Dinitrophenol	ug/kg	170 U	160 U	160 U	150 U	160 U	160 U	160 U	160 U
2,4-Dinitrotoluene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2,6-Dinitrotoluene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2-Chloronaphthalene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2-Chlorophenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2-Methylnaphthalene	ug/kg	7.5 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2-Methylphenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
2-Nitroaniline	ug/kg	230 U	210 U	220 U	200 U	220 U	210 U	210 U	220 U
2-Nitrophenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
3&4-Methylphenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
3,3'-Dichlorobenzidine	ug/kg	1800 U	1700 U	1700 U	1600 U	1700 U	1700 U	1700 U	1700 U
3-Nitroaniline	ug/kg	230 U	210 U	220 U	200 U	220 U	210 U	210 U	220 U
4,6-Dinitro-2-methylphenol	ug/kg	170 U	160 U	160 U	150 U	160 U	160 U	160 U	160 U
4-Bromophenyl phenyl ether	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
4-Chloro-3-methylphenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
4-Chloroaniline	ug/kg	230 U	210 U	220 U	200 U	220 U	210 U	210 U	220 U
4-Chlorophenyl phenyl ether	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
4-Nitroaniline	ug/kg	230 U	210 U	220 U	200 U	220 U	210 U	210 U	220 U
4-Nitrophenol	ug/kg	380 U	350 U	360 U	340 U	360 U	350 U	350 U	360 U
Acenaphthene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Acenaphthylene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Acetophenone	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Anthracene	ug/kg	6.1 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Atrazine	ug/kg	46 U	42 U	43 U	41 U	43 U	42 U	43 U	43 U
Benzaldehyde	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Benzo(a)anthracene	ug/kg	53 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Benzo(a)pyrene	ug/kg	55 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Benzo(b)fluoranthene	ug/kg	72 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Benzo(g,h,i)perylene	ug/kg	50 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Benzo(k)fluoranthene	ug/kg	38 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Biphenyl (1,1-Biphenyl)	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
bis(2-Chloroethoxy)methane	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
bis(2-Chloroethyl)ether	ug/kg	91 U	84 U	87 U	82 U	86 U	84 U	85 U	87 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	300 U	72 J	46 J	20 J	290 U	280 U	280 U	88 J
Butyl benzylphthalate (BBP)	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Caprolactam	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Carbazole	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Chrysene	ug/kg	57 J	280 U	12 J	270 U	290 U	280 U	280 U	290 U
Dibenz(a,h)anthracene	ug/kg	12 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Dibenzofuran	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Diethyl phthalate	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Dimethyl phthalate	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Di-n-butylphthalate (DBP)	ug/kg	300 U	280 U	17 J	270 U	290 U	280 U	280 U	290 U
Di-n-octyl phthalate (DnOP)	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Fluoranthene	ug/kg	100 J	280 U	290 U	7.4 J	290 U	280 U	280 U	290 U
Fluorene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Hexachlorobenzene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Hexachlorobutadiene	ug/kg	46 U	42 U	43 U	41 U	43 U	42 U	43 U	43 U
Hexachlorocyclopentadiene	ug/kg	300 U	280 U	290 U	270 U	R	280 U	280 U	290 U
Hexachloroethane	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Indeno(1,2,3-cd)pyrene	ug/kg	33 J	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Isophorone	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Naphthalene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Nitrobenzene	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
N-Nitrosodi-n-propylamine	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
N-Nitrosodiphenylamine	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Pentachlorophenol	ug/kg	170 U	160 U	160 U	150 U	160 U	160 U	160 U	160 U
Phenanthrene	ug/kg	27 J	280 U	15 J	270 U	290 U	280 U	280 U	290 U
Phenol	ug/kg	300 U	280 U	290 U	270 U	290 U	280 U	280 U	290 U
Pyrene	ug/kg	82 J	280 U	290 U	11 J	290 U	280 U	280 U	8.1 J

TABLE 3
SOIL ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	MW19-29	MW19-29	MW19-29	MW19-30	MW19-30	MW19-30	MW19-30	MW19-31	MW19-31	MW19-31
Sample Depth:	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	8-10 ft BGS	10-12 ft BGS	
Sample ID:	SO-17303-092111-CB-002	SO-17303-092111-CB-003	SO-17303-092111-CB-004	SO-17303-092111-CB-005	SO-17303-092111-CB-006	SO-17303-092111-CB-007	SO-17303-092111-CB-008	SO-17303-092111-CB-009	SO-17303-092111-CB-010	
Sample Date:	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011	09/21/2011
Sample Type:	Duplicate	Original	Original	Original	Original	Original	Original	Original	Original	Original
Parameters	Units									
Metals										
Antimony	mg/kg	160 J	60 J	61 J	87 J	65 J	97 J	51 J	35 J	53 J
Arsenic	mg/kg	3600	3900	3100	2700	3400	8200 ^{fi}	3000	2200	2400
Barium	mg/kg	21000	12000	7900	7400	10000	8200	11000	8200	5900
Beryllium	mg/kg	230	180	150	110 J	140 J	170	160	140 J	140 J
Cadmium	mg/kg	140	66 J	62 J	110	63 J	55 J	74 J	53 J	42 J
Chromium	mg/kg	10000 ^j	7500 ^j	7800 ^j	3900 ^j	4800 ^j	6500 ^j	4800 ^j	4300 ^j	5400 ^j
Cobalt	mg/kg	3100	3000	3100	2100	2500	2800	2400	2000	2000
Copper	mg/kg	7600	8600	8500	5500	8300	8500	6100	6100	5600
Lead	mg/kg	6000	3300	3100	5300	2800	3800	3400	2600	2700
Manganese	mg/kg	270000	250000	260000	140000	190000	250000	150000	150000	250000
Mercury	mg/kg	19 J	27 U	43 U	39 U	41 U	18 J	41 U	36 U	34 U
Nickel	mg/kg	8100	9200	8400	4700	7400	8500	5500	6000	5500
Selenium	mg/kg	290	240	330	210	250	240	210	170	230
Silver	mg/kg	76 U	77 U	73 U	78 U	85 U	82 U	78 U	79 U	79 U
Thallium	mg/kg	130	130	140	94	170	110	98	80	79 U
Vanadium	mg/kg	12000	10000	8800	6200	7800	9800	7500	6100	7900
Zinc	mg/kg	20000	20000	14000	23000	16000	19000	23000	13000	14000
PCBs										
Aroclor-1016 (PCB-1016)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1221 (PCB-1221)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1232 (PCB-1232)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1242 (PCB-1242)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1248 (PCB-1248)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1254 (PCB-1254)	ug/kg	38 U	35 U	36 U	34 U	36 U	36 U	35 U	35 U	36 U
Aroclor-1260 (PCB-1260)	ug/kg	35 J	35 U	36 U	87	36 U	36 U	60	35 U	36 U
Total PCBs	ug/kg	35	35 U	36 U	87	36 U	36 U	60	35 U	36 U

Notes:
The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11
The Michigan Part 201 criteria footnotes are presented in Attachment B.
NA - Criteria not available
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit
J - The associated value is qualified as an estimated quantity
UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

GROUNDWATER ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample ID: Sample Date: Sample Type: Parameters		Acute Inhalation Screening Level	Flammability and Explosivity Screening Level	Groundwater Contact Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Drinking Water Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	Water Solubility	Final Acute Value	MW19-29 GW-17303-093011-CB-042 09/30/2011 Original	MW19-29 GW-17303-093011-CB-043 09/30/2011 Duplicate	MW19-30 GW-17303-093011-CB-045 09/30/2011 Original	MW19-31 GW-17303-093011-CB-044 09/30/2011 Original
	Units	a	b	c	d	e	f	g	h				
VOCs													
1,1,1-Trichloroethane	ug/L	1300000 S	ID	1300000 S	89	200 A	1300000 S	1330000	1600	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	ID	ID	4700	78 X	35	77000	2970000	1800	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	ug/L	ID	NA	21000	330 X	5 A	110000	4420000	6400	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	ID	380000	2400000	740	2500	2300000	5060000	13000	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	140000	97000	11000	130	7 A	1300	2250000	2300	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	300000 S	NA	19000	99 X	70 A	300000 S	300000	200	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ID	NA	390	NA	0.2 A	1200 S	1230	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ID	ID	25	5.7 X	0.05 A	15000	4200000	280	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	160000 S	NA	160000 S	13	600 A	160000 S	156000	240	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	ID	2500000	19000	360 X	5 A	59000	8520000	16000	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	2800000 S	550000	16000	230 X	5 A	36000	2800000	4000	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	ID	ID	2000	28	19	41000	111000	200	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	ID	NA	6400	17	75 A	74000 S	73800	210	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	240000000 S	ID	240000000 S	2200	38000	240000000 S	2400000000	40000	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	ID	NA	5200000	ID	2900	8700000	16000000	ID	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	20000000 S	ID	13000000	ID	5200	20000000 S	20000000	ID	10 U	10 U	10 U	10 U
Acetone	ug/L	1000000000 D	15000000	31000000	1700	2100	1000000000 D,S	10000000000	30000	10 U	10 U	10 U	10 U
Benzene	ug/L	67000	68000	11000	200 X	5 A	35000	1750000	1900	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	ID	ID	14000	ID	80 A,W	37000	6740000	ID	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	ID	ID	140000	ID	80 A,W	3100000 S	3100000	ID	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	ID	ID	70000	35	29	9000	14500000	640	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	ID	13000	1200000 S	ID	2300	550000	1190000	ID	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	ug/L	96000	ID	4600	45 X	5 A	2400	793000	1400	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	ID	160000	86000	25	100 A	470000 S	472000	450	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	ID	110000	440000	1100 X	1700	5700000 S	5740000	20000	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	ID	ID	150000	350	80 A,W	180000	7920000	11000	0.31 J	0.31 J	1.0 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	210000	36000	490000	ID	1100	45000	6340000	ID	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	ID	530000	200000	620	70 A	210000	3500000	11000	1.0 U	1.0 U	1.0 U	1.2
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	ID	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	ID	ID	18000	ID	80 A,W	110000	2600000	ID	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	ID	ID	300000 S	ID	4800	300000 S	300000	ID	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	170000 S	43000	170000 S	18	74 E	170000 S	169000	320	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	ug/L	ID	29000	56000 S	28	2300	56000 S	56000	500	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	ID	ID	610000	7100 X	40 E	4700000 S	46800000	420000	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	ID	ID	220000	1500 X	5 A	1400000	17000000	17000	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	310000 S	140000	9700	80	100 A	310000 S	310000	2900	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	200000 S	ID	12000	60 X	5 A	170000	200000	2900	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	ug/L	ID	61000	530000 S	270	790 E	530000 S	526000	2600	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	ID	230000	220000	1500 X	100 A	200000	6300000	28000	1.0 U	1.0 U	1.0 U	0.23 J
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1100000 S	ID	22000	200 X	5 A	97000	1100000	3500	1.1	1.2	0.92 J	0.79 J
Trichlorofluoromethane (CFC-11)	ug/L	1100000 S	ID	1100000 S	7300	1100000 S	1100000 S	1100000	NA	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	170000 S	ID	170000 S	32	170000 S	170000 S	170000	570	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	ID	33000	1000	13 X	2 A	13000	2760000	17000	1.0 U	1.0 U	0.97 J	2.0
Xylenes (total)	ug/L	190000 S	70000	190000 S	41	280 E	190000 S	186000	730	2.0 U	2.0 U	2.0 U	2.0 U
SVOCs													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	NA	NA	NA	NA	NA	NA	NA	ID	4.9 U	4.8 U	4.8 U	4.8 U
2,4,5-Trichlorophenol	ug/L	ID	ID	170000	NA	2100	NLV	1200000	NA	4.9 U	4.8 U	4.8 U	4.8 U
2,4,6-Trichlorophenol	ug/L	ID	ID	10000	5	470	NLV	800000	79	3.9 U	3.8 U	3.8 U	3.8 U
2,4-Dichlorophenol	ug/L	ID	ID	48000	11	210	NLV	4500000	180	9.8 U	9.5 U	9.5 U	9.5 U
2,4-Dimethylphenol	ug/L	ID	ID	520000	380	1000	NLV	7870000	2700	4.9 U	4.8 U	4.8 U	4.8 U
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	270	20 U	19 U	19 U	19 U

TABLE 4A

GROUNDWATER ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample ID: Sample Date: Sample Type:	Acute Inhalation Screening Level	Flammability and Explosivity Screening Level	Groundwater Contact Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Drinking Water Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	Water Solubility	Final Acute Value	MW19-29 GW-17303-093011-CB-042 09/30/2011 Original	MW19-29 GW-17303-093011-CB-043 09/30/2011 Duplicate	MW19-30 GW-17303-093011-CB-045 09/30/2011 Original	MW19-31 GW-17303-093011-CB-044 09/30/2011 Original
Parameters	Units	a	b	c	d	e	f	g	h			
2,4-Dinitrotoluene	ug/L	ID	ID	8600	NA	32	NLV	270000	NA	4.9 U	4.8 U	4.8 U
2,6-Dinitrotoluene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.8 U	4.8 U
2-Chloronaphthalene	ug/L	ID	ID	6700 S		5200	ID	6740	NA	4.9 U	4.8 U	4.8 U
2-Chlorophenol	ug/L	ID	ID	94000	18	130	ID	22000000	320	4.9 U	4.8 U	4.8 U
2-Methylnaphthalene	ug/L	ID	ID	25000 S	19	750	25000	24600	ID	4.9 U	4.8 U	4.8 U
2-Methylphenol	ug/L	ID	NA	810000	30 M	1000	NLV	28000000	1500	4.9 U	4.8 U	4.8 U
2-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	20 U	19 U	19 U
2-Nitrophenol	ug/L	ID	ID	79000	ID	58	NLV	2500000	ID	4.9 U	4.8 U	4.8 U
3&4-Methylphenol	ug/L	ID	NA	810000	30 M	1000	NLV	28000000	NA	4.9 U	4.8 U	4.8 U
3,3'-Dichlorobenzidine	ug/L	ID	ID	180	0.3 M	4.3	NLV	3110	81	0.98 U	0.95 U	R
3-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	20 U	19 U	19 U
4,6-Dinitro-2-methylphenol	ug/L	ID	ID	9500	NA	20 M	NLV	200000	NA	20 U	19 U	19 U
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.8 U	4.8 U
4-Chloro-3-methylphenol	ug/L	ID	ID	79000	7.4	420	NLV	3900000	130	4.9 U	4.8 U	4.8 U
4-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	ID	9.8 U	9.5 U	9.5 U
4-Chlorophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.8 U	4.8 U
4-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	20 U	19 U	19 U
4-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	1900	20 U	19 U	19 U
Acenaphthene	ug/L	ID	ID	4200 S	38	3800	4200 S	4240	200	4.9 U	4.8 U	4.8 U
Acenaphthylene	ug/L	ID	ID	3900 S	ID	150	3900 S	3930	ID	4.9 U	4.8 U	4.8 U
Acetophenone	ug/L	ID	ID	6100000 S	NA	4400	6100000 S	6100000	ID	4.9 U	4.8 U	4.8 U
Anthracene	ug/L	ID	ID	43 S	ID	43 S	43 S	43.4	ID	4.9 U	4.8 U	4.8 U
Atrazine	ug/L	ID	ID	5400	7.3	3 A	NLV	70000	100	2.9 U	2.9 U	2.9 U
Benzaldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.8 U	4.8 U
Benzo(a)anthracene	ug/L	ID	ID	9.4 S,AA	ID	8.5	NLV	9.4	ID	0.98 U	0.95 U	0.95 U
Benzo(a)pyrene	ug/L	ID	ID	1 M,AA	ID	5 A	NLV	1.62	ID	0.98 U	0.95 U	0.95 U
Benzo(b)fluoranthene	ug/L	ID	ID	1.5 S,AA	ID	1.5 S,AA	ID	1.5	ID	0.98 U	0.95 U	0.95 U
Benzo(g,h,i)perylene	ug/L	ID	ID	1 M	NA	1 M	NLV	0.26	NA	0.98 U	0.95 U	0.95 U
Benzo(k)fluoranthene	ug/L	ID	ID	1 M,AA	NA	1 M	NLV	0.8	NA	0.98 U	0.95 U	0.95 U
Biphenyl (1,1-Biphenyl)	ug/L	NA	NA	NA	NA	NA	NA	NA	110	4.9 U	4.8 U	4.8 U
bis(2-Chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	4.9 U	4.8 U	4.8 U
bis(2-Chloroethyl)ether	ug/L	17000000 S	17000000 S	5700	1 M	8.3	210000	17200000	ID	0.98 U	0.95 U	0.95 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	340 S	NA	320 AA	25	6 A	NLV	340	285	4.9 U	4.8 U	4.8 U
Butyl benzylphthalate (BBP)	ug/L	ID	ID	2700 S	67 X	2700 S	NLV	2690	630	4.9 U	4.8 U	4.8 U
Caprolactam	ug/L	1000000000 D	NA	3900000000	NA	17000	NLV	5250000000	NA	9.8 U	9.5 U	9.5 U
Carbazole	ug/L	ID	ID	7400	10 M	350	NLV	7480	72	9.8 U	9.5 U	9.5 U
Chrysene	ug/L	ID	ID	1.6 S,AA	ID	1.6 S	ID	1.6	ID	0.98 U	0.95 U	0.95 U
Dibenz(a,h)anthracene	ug/L	ID	ID	2 M,AA	ID	2 M	NLV	2.49	ID	2.0 U	1.9 U	1.9 U
Dibenzofuran	ug/L	ID	ID	ID	4	ID	10000	10000	72	3.9 U	3.8 U	3.8 U
Diethyl phthalate	ug/L	ID	NA	1100000 S	110	16000	NLV	1080000	2000	4.9 U	4.8 U	4.8 U
Dimethyl phthalate	ug/L	ID	NA	4200000 S	NA	210000	NLV	4190000	NA	4.9 U	4.8 U	4.8 U
Di-n-butylphthalate (DBP)	ug/L	ID	NA	11000 S	9.7	2500	NLV	11200	75	4.9 U	4.8 U	4.8 U
Di-n-octyl phthalate (DnOP)	ug/L	ID	ID	400	ID	380	NLV	3000	ID	4.9 U	4.8 U	4.8 U
Fluoranthene	ug/L	ID	ID	210 S	1.6	210 S	210 S	206	28	0.98 U	0.95 U	0.95 U
Fluorene	ug/L	ID	ID	2000 S	12	2000 S	2000 S	1980	220	4.9 U	4.8 U	4.8 U
Hexachlorobenzene	ug/L	ID	ID	4.6	0.2 M	1 A	3000	6200	ID	0.20 U	0.19 U	0.19 U
Hexachlorobutadiene	ug/L	ID	ID	400	0.053	42	3200 S	3230	15	0.98 U	0.95 U	0.95 U
Hexachlorocyclopentadiene	ug/L	ID	ID	1600	ID	50 A	420	1800	ID	4.9 U	4.8 U	4.8 U
Hexachloroethane	ug/L	ID	ID	1900	6.7 X	21	50000 S	50000	210	4.9 U	4.8 U	4.8 U
Indeno(1,2,3-cd)pyrene	ug/L	ID	ID	2 M,AA	ID	2 M	NLV	0.022	ID	2.0 U	1.9 U	1.9 U
Isophorone	ug/L	12000000 S	NA	990000	1300 X	3100	NLV	12000000	9200	4.9 U	4.8 U	4.8 U
Naphthalene	ug/L	31000 S	NA	31000 S	11	1500	31000 S	31000	200	4.9 U	4.8 U	4.8 U
Nitrobenzene	ug/L	ID	NA	11000	180 X	9.6	550000	2090000	2100	2.9 U	2.9 U	2.9 U
N-Nitrosodi-n-propylamine	ug/L	ID	ID	360	NA	5 M	NLV	9890000	NA	4.9 U	4.8 U	4.8 U
N-Nitrosodiphenylamine	ug/L	ID	ID	35000 S	NA	1100	NLV	35100	NA	4.9 U	4.8 U	4.8 U
Pentachlorophenol	ug/L	ID	ID	200	2.8	1 A	NLV	1850000	22.4	4.9 U	4.8 U	4.8 U
Phenanthrene	ug/L	ID	ID	1000 S	2 M	150	1000 S	1000	9.4	2.0 U	1.9 U	1.9 U
Phenol	ug/L	ID		29000000	450	13000	NLV	82800000	6800	4.9 U	4.8 U	4.8 U
Pyrene	ug/L	ID	ID	140 S	ID	140 S		135	ID	4.9 U	4.8 U	4.8 U

TABLE 4A

GROUNDWATER ANALYTICAL RESULTS
DELINEATION BENEATH HAULAWAY BUILDING
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location: Sample ID: Sample Date: Sample Type: Parameters		Acute Inhalation Screening Level	Flammability and Explosivity Screening Level	Groundwater Contact Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Drinking Water Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	Water Solubility	Final Acute Value	MW19-29 GW-17303-093011-CB-042 09/30/2011 Original	MW19-29 GW-17303-093011-CB-043 09/30/2011 Duplicate	MW19-30 GW-17303-093011-CB-045 09/30/2011 Original	MW19-31 GW-17303-093011-CB-044 09/30/2011 Original
Units		a	b	c	d	e	f	g	h				
Metals													
Aluminum	ug/L	ID	ID	64000000	NA	50 V	NLV	NA	NA	35 J	27 J	50 U	28 J
Antimony	ug/L	ID	ID	68000	130 X	6 A	NLV	NA	2300	0.57 J	0.65 J	0.34 J	0.71 J
Arsenic	ug/L	ID	ID	4300	10	10 A	NLV	NA	680	5.0 U	5.0 U	5.0 U	5.0 U
Barium	ug/L	ID	ID	14000000	1870	2000 A	NLV	NA	10650.0	150	160	130	74 J
Beryllium	ug/L	ID	ID	290000	75.3	4 A	NLV	NA	1354.8	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	ug/L	ID	ID	190000	6.12	5 A	NLV	NA	37.3	1.0 U	1.0 U	1.0 U	1.0 U
Chromium	ug/L	ID	ID	460000	11	100 A	NLV	NA	3482.9	5.0 U	5.0 U	5.0 U	5.0 U
Cobalt	ug/L	ID	ID	2400000	100	100	NLV	NA	740.0	7.0 U	7.0 U	7.0 U	7.0 U
Copper	ug/L	ID	ID	7400000	28.7	1000 E	NLV	NA	97.2	0.82 J	2.0 U	2.0 U	2.0 U
Lead	ug/L	ID	ID	ID	43.8	4 L	NLV	NA	779.4	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	ug/L	ID	ID	9100000	6400	50 E	NLV	NA	27597.3	230 ^e	240 ^e	180 ^e	110 ^e
Mercury	ug/L	ID	ID	56 S	0.0013	2 A	56 S	56	2.8D	0.20 U	0.20 U	0.20 U	0.20 U
Nickel	ug/L	ID	ID	74000000	165	100 A	NLV	NA	2969.7	20 U	20 U	3.2 J	20 U
Selenium	ug/L	ID	ID	970000	5	50 A	NLV	NA	120.0	6.7 ^d	5.0 U	5.0 U	5.0 U
Silver	ug/L	ID	ID	1500000	0.2 M	98	NLV	NA	1.1	0.20 U	0.20 U	0.20 U	0.20 U
Thallium	ug/L	ID	ID	13000	3.7 X	2 A	NLV	NA	94.0	1.0 U	1.1	0.85 J	0.64 J
Vanadium	ug/L	ID	ID	970000	12	62	NLV	NA	220.0	4.0 U	4.0 U	4.0 U	4.0 U
Zinc	ug/L	ID	ID	110000000	375	5000 E	NLV	NA	744.5	20 U	20 U	20 U	20 U
PCBs													
Aroclor-1016 (PCB-1016)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1221 (PCB-1221)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1232 (PCB-1232)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1242 (PCB-1242)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1248 (PCB-1248)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1254 (PCB-1254)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Aroclor-1260 (PCB-1260)	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U
Total PCBs	ug/L	ID	ID	3.3 AA	0.2 M	0.5 A	45 S	44.7	ID	0.095 U	0.10 U	0.095 U	0.095 U

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11.

The Michigan Part 201 criteria footnotes are presented in Attachment B.

NA - Criteria not available

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity.

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

GROUNDWATER ANALYTICAL RESULTS SITEWIDE GROUNDWATER MONITORING EVENT SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES WILLOW RUN COMPANY VEHICLE OPERATIONS YPSILANTI, MICHIGAN													
Sample Location: Sample ID: Sample Date: Sample Type: Parameters	Acute Inhalation Screening Level	Flammability and Explosivity Screening Level	Groundwater Contact Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Drinking Water Criteria	Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria	Water Solubility	Final Acute Value	Residential Drinking Water Criteria	GS-1 GW-17303-092711-CB-010 09/27/2011 Original	GS-2 GW-17303-092811-CB-019 09/28/2011 Original	GS-3 GW-17303-092811-CB-031 09/28/2011 Original	
Units	a	b	c	d	e	f	g	h	i				
VOCs													
1,1,1-Trichloroethane	ug/L	1300000 S	ID	1300000 S	89	200 A	1300000 S	1330000	1600	200 A	400 U	420 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	ID	ID	4700	78 X	35	77000	2970000	1800	8.5	400 U	420 U	1.0 U
1,1,2-Trichloroethane	ug/L	ID	NA	21000	330 X	5 A	110000	4420000	6400	5 A	400 U	420 U	1.0 U
1,1-Dichloroethane	ug/L	ID	380000	2400000	740	2500	2300000	5060000	13000	880	400 U	420 U	1.0 U
1,1-Dichloroethene	ug/L	140000	97000	11000	130	7 A	1300	2250000	2300	7 A	400 U	420 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	300000 S	NA	19000	99 X	70 A	300000 S	300000	200	70 A	400 U	420 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ID	NA	390	NA	0.2 A	1200 S	1230	NA	0.2 A	400 U	420 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	ID	ID	25	5.7 X	0.05 A	15000	4200000	280	0.05 A	400 U	420 U	1.0 U
1,2-Dichlorobenzene	ug/L	160000 S	NA	160000 S	13	600 A	160000 S	156000	240	600 A	400 U	420 U	1.0 U
1,2-Dichloroethane	ug/L	ID	2500000	19000	360 X	5 A	59000	8520000	16000	5 A	400 U	420 U	1.0 U
1,2-Dichloropropane	ug/L	2800000 S	550000	16000	230 X	5 A	36000	2800000	4000	5 A	400 U	420 U	1.0 U
1,3-Dichlorobenzene	ug/L	ID	ID	2000	28	19	41000	111000	200	6.6	400 U	420 U	1.0 U
1,4-Dichlorobenzene	ug/L	ID	NA	6400	17	75 A	74000 S	73800	210	75 A	400 U	420 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	240000000 S	ID	240000000 S	2200	38000	240000000 S	2400000000	40000	13000	4000 U	4200 U	10 U
2-Hexanone	ug/L	ID	NA	5200000	ID	2900	8700000	16000000	ID	1000	4000 U	4200 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	200000000 S	ID	130000000	ID	5200	200000000 S	200000000	ID	1800	4000 U	4200 U	10 U
Acetone	ug/L	1000000000 D	15000000	31000000	1700	2100	1000000000 D,S	1000000000	30000	730	4000 U	4200 U	10 U
Benzene	ug/L	67000	68000	11000	200 X	5 A	35000	1750000	1900	5 A	140 J ^{ei}	420 U	1.0 U
Bromodichloromethane	ug/L	ID	ID	14000	ID	80 A,W	37000	6740000	ID	80 A,W	400 U	420 U	1.0 U
Bromoform	ug/L	ID	ID	140000	ID	80 A,W	3100000 S	3100000	ID	80 A,W	400 U	420 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	ID	ID	70000	35	29	9000	14500000	640	10	400 U	420 U	1.0 U
Carbon disulfide	ug/L	ID	13000	1200000 S	ID	2300	550000	1190000	ID	800	2000 U	2100 U	5.0 U
Carbon tetrachloride	ug/L	96000	ID	4600	45 X	5 A	2400	793000	1400	5 A	400 U	420 U	1.0 U
Chlorobenzene	ug/L	ID	160000	86000	25	100 A	470000 S	472000	450	100 A	400 U	420 U	1.0 U
Chloroethane	ug/L	ID	110000	440000	1100 X	1700	5700000 S	5740000	20000	430	400 U	420 U	1.0 U
Chloroform (Trichloromethane)	ug/L	ID	ID	150000	350	80 A,W	180000	7920000	11000	80 A,W	400 U	420 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	210000	36000	490000	ID	1100	45000	6340000	ID	260	400 U	420 U	1.0 U
cis-1,2-Dichloroethene	ug/L	ID	530000	200000	620	70 A	210000	3500000	11000	70 A	210 J ^{ei}	2500 ^{dei}	1.0 U
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	NA	400 U	420 U	1.0 U
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	ID	NA	400 U	420 U	1.0 U
Dibromochloromethane	ug/L	ID	ID	18000	ID	80 A,W	110000	2600000	ID	80 A,W	400 U	420 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	ID	ID	300000 S	ID	4800	300000 S	300000	ID	1700	400 U	420 U	1.0 U
Ethylbenzene	ug/L	170000 S	43000	170000 S	18	74 E	170000 S	169000	320	74 E	400 U	420 U	1.0 U
Isopropyl benzene	ug/L	ID	29000	56000 S	28	2300	56000 S	56000	500	800	400 U	420 U	1.0 U
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	4000 U	4200 U	10 U
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	400 U	420 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	ID	ID	610000	7100 X	40 E	47000000 S	46800000	420000	40 E	2000 U	2100 U	5.0 U
Methylene chloride	ug/L	ID	ID	220000	1500 X	5 A	1400000	17000000	17000	5 A	2000 U	190 J ^{ei}	5.0 U
Styrene	ug/L	310000 S	140000	9700	80	100 A	310000 S	310000	2900	100 A	400 U	420 U	1.0 U
Tetrachloroethene	ug/L	200000 S	ID	12000	60 X	5 A	170000	200000	2900	5 A	400 U	420 U	1.0 U
Toluene	ug/L	ID	61000	530000 S	270	790 E	530000 S	526000	2600	790 E	150 J	420 U	1.0 U
trans-1,2-Dichloroethene	ug/L	ID	230000	220000	1500 X	100 A	200000	6300000	28000	100 A	400 U	420 U	1.0 U
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	160	NA	400 U	420 U	1.0 U
Trichloroethene	ug/L	1100000 S	ID	22000	200 X	5 A	97000	1100000	3500	5 A	400 U	420 U	0.23 J
Trichlorofluoromethane (CFC-11)	ug/L	1100000 S	ID	1100000 S	NA	7300	1100000 S	1100000	2600	400 U	420 U	420 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	170000 S	ID	170000 S	32	170000 S	170000 S	170000	570	170000 S	400 U	420 U	1.0 U
Vinyl chloride	ug/L	ID	33000	1000	13 X	2 A	13000	2760000	17000	2 A	25000 ^{cdethi}	10000 ^{dei}	0.56 J
Xylenes (total)	ug/L	190000 S	70000	190000 S	41	280 E	190000 S	186000	730	280 E	800 U	830 U	2.0 U

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11

The Michigan Part 201 criteria footnotes are presented in Attachment B.

NA - Criteria not available

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

TABLE 4B

GROUNDWATER ANALYTICAL RESULTS
SITEWIDE GROUNDWATER MONITORING EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	GS-4	GS-6	GS-8	IW-9	IW-9	IW-12	IW-33	MW-4	MW-5	MW-6	MW-7	
Sample ID:	GW-17303-092811-CB-018	GW-17303-092711-CB-008	GW-17303-092811-CB-030	GW-17303-092711-CB-003	GW-17303-092711-CB-004	GW-17303-092711-CB-001	GW-17303-092811-CB-020	GW-17303-092711-CB-011	GW-17303-092811-CB-025	GW-17303-092911-CB-039	GW-17303-092811-CB-032	
Sample Date:	09/28/2011	09/27/2011	09/28/2011	09/27/2011	09/27/2011	09/27/2011	09/28/2011	09/27/2011	09/28/2011	09/29/2011	09/28/2011	
Sample Type:	Original	Original	Original	Original	Duplicate	Original	Original	Original	Original	Original	Original	
Parameters	Units											
VOCs												
1,1,1-Trichloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,1,2-Trichloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	500 U	13000 U	2000 U	2000 U	8300 U	3300 U	10 U	670 U	330 U	10 U
2-Hexanone	ug/L	10 U	500 U	13000 U	2000 U	2000 U	8300 U	3300 U	10 U	670 U	330 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	500 U	13000 U	2000 U	2000 U	8300 U	3300 U	10 U	670 U	330 U	10 U
Acetone	ug/L	1.4 J	500 U	13000 U	2000 U	2000 U	8300 U	3300 U	10 U	670 U	330 U	1.8 J
Benzene	ug/L	0.37 J	50 U	1300 U	200 U	200 U	260 J ^{dei}	52 J ^{ei}	1.0 U	67 U	10 J ^{ei}	10 ^{ei}
Bromodichloromethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Bromoform	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Carbon disulfide	ug/L	5.0 U	250 U	6300 U	1000 U	1000 U	4200 U	1700 U	5.0 U	330 U	170 U	1.8 J
Carbon tetrachloride	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Chlorobenzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Chloroethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	2500 ^{dei}	31000 ^{dehi}	670 ^{dei}	670 ^{dei}	44000 ^{dehi}	1200 ^{dei}	0.41 J	2000 ^{dei}	800 ^{dei}	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Cyclohexane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	3.5
Dibromochloromethane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Ethylbenzene	ug/L	1.0 U	50 U	1300 U	77 J ^{dei}	80 J ^{dei}	830 U	330 U	1.0 U	67 U	33 U	2.2
Isopropyl benzene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	7.4
Methyl acetate	ug/L	10 U	500 U	13000 U	2000 U	2000 U	8300 U	3300 U	10 U	670 U	330 U	10 U
Methyl cyclohexane	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	2.3
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	250 U	6300 U	1000 U	1000 U	4200 U	1700 U	5.0 U	330 U	170 U	5.0 U
Methylene chloride	ug/L	5.0 U	250 U	6300 U	1000 U	1000 U	4200 U	1700 U	5.0 U	330 U	170 U	5.0 U
Styrene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Toluene	ug/L	1.0 U	50 U	1300 U	690 ^d	720 ^d	220 J	57 J	1.0 U	67 U	33 U	0.20 J
trans-1,2-Dichloroethene	ug/L	1.0 U	110 ^{ei}	260 J ^{ei}	47 J	47 J	780 J ^{ei}	66 J	1.0 U	68	32 J	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Trichloroethene	ug/L	2.1	50 U	240 J ^{dei}	200 U	200 U	830 U	80 J ^{ei}	0.24 J	67 U	21 J ^{ei}	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	50 U	1300 U	200 U	200 U	830 U	330 U	1.0 U	67 U	33 U	1.0 U
Vinyl chloride	ug/L	4.4 ^{ei}	1700 ^{dei}	4200 ^{cdei}	14000 ^{cdefi}	14000 ^{cdefi}	26000 ^{cdefhi}	12000 ^{cdei}	1.0 U	2000 ^{cdei}	1100 ^{cdei}	1.0 U
Xylenes (total)	ug/L	2.0 U	100 U	2500 U	400 ^{dei}	410 ^{dei}	1700 U	670 U	2.0 U	130 U	67 U	0.40 J

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11

The Michigan Part 201 criteria footnotes are presented in Attachment B.

NA - Criteria not available

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

TABLE 4B

GROUNDWATER ANALYTICAL RESULTS
SITEWIDE GROUNDWATER MONITORING EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	MW-12	MW-13	MW-14	MW-18	MW18-07	MW-18-45	MW19-01	MW19-02	MW19-03	MW19-03	MW19-04
Sample ID:	GW-17303-092911-CB-038	GW-17303-092911-CB-036	GW-17303-092811-CB-029	GW-17303-092811-CB-033	GW-17303-092711-CB-009	GW-17303-092711-CB-007	GW-17303-092711-CB-013	GW-17303-092811-CB-024	GW-17303-092811-CB-026	GW-17303-092811-CB-027	GW-17303-092911-CB-035
Sample Date:	09/29/2011	09/29/2011	09/28/2011	09/28/2011	09/27/2011	09/27/2011	09/27/2011	09/28/2011	09/28/2011	09/28/2011	09/29/2011
Sample Type:	Original	Original	Original	Original	Original	Original	Original	Original	Original	Duplicate	Original
Parameters	Units										
VOCs											
1,1,1-Trichloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,1,2-Trichloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,1-Dichloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,1-Dichloroethene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2-Dichlorobenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2-Dichloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,2-Dichloropropane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,3-Dichlorobenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
1,4-Dichlorobenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	200 U	10 U	10 U	10 U	50 U	13000 U	10 U	3300 U	500 U	10 U
2-Hexanone	ug/L	200 U	10 U	10 U	10 U	50 U	13000 U	10 U	3300 U	500 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	200 U	10 U	10 U	10 U	50 U	13000 U	10 U	3300 U	500 U	10 U
Acetone	ug/L	200 U	10 U	10 U	10 U	50 U	13000 U	10 U	3300 U	500 U	10 U
Benzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Bromodichloromethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Bromoform	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Bromomethane (Methyl bromide)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Carbon disulfide	ug/L	100 U	5.0 U	5.0 U	5.0 U	25 U	6300 U	5.0 U	1700 U	250 U	5.0 U
Carbon tetrachloride	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Chlorobenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Chloroethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Chloroform (Trichloromethane)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Chloromethane (Methyl chloride)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
cis-1,2-Dichloroethene	ug/L	56	1.0 U	1.0 U	1.0 U	200 ^{ei}	70000 ^{dehi}	10	4700 ^{dei}	930 ^{dei}	940 ^{dei}
cis-1,3-Dichloropropene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Cyclohexane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Dibromochloromethane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Ethylbenzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Isopropyl benzene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Methyl acetate	ug/L	200 U	10 U	10 U	10 U	50 U	13000 U	10 U	3300 U	500 U	10 U
Methyl cyclohexane	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Methyl tert butyl ether (MTBE)	ug/L	100 U	5.0 U	5.0 U	5.0 U	25 U	6300 U	0.32 J	1700 U	250 U	5.0 U
Methylene chloride	ug/L	100 U	5.0 U	5.0 U	5.0 U	25 U	6300 U	5.0 U	1700 U	250 U	5.0 U
Styrene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Tetrachloroethene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Toluene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
trans-1,2-Dichloroethene	ug/L	20 U	1.0 U	1.0 U	1.0 U	110 ^{ei}	560 ^{ei}	1.2	140 ^J ^{ei}	45 J	45 J
trans-1,3-Dichloropropene	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Trichloroethene	ug/L	610 ^{dei}	1.0 U	1.0 U	1.0 U	8.0 ^{ei}	3600 ^{dehi}	1.0 U	330 U	50 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	20 U	1.0 U	1.0 U	1.0 U	5.0 U	1300 U	1.0 U	330 U	50 U	1.0 U
Vinyl chloride	ug/L	20 U	1.0 U	0.76 J	1.0 U	72 ^{dei}	16000 ^{cdefi}	4.5 ^{ei}	8300 ^{dei}	960 ^{dei}	980 ^{dei}
Xylenes (total)	ug/L	40 U	2.0 U	2.0 U	2.0 U	10 U	2500 U	2.0 U	670 U	100 U	2.0 U

Notes:
The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11
The Michigan Part 201 criteria footnotes are presented in Attachment B.
NA - Criteria not available
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J - The associated value is qualified as an estimated quantity
UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

TABLE 4B

GROUNDWATER ANALYTICAL RESULTS
SITEWIDE GROUNDWATER MONITORING EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

Sample Location:	MW19-06	MW19-07	MW19-10	MW19-12	MW19-15	MW19-22R	MW19-24	MW19-24	MW19-26	MW19-27	MW19-28	
Sample ID:	GW-17303-092811-CB-028	GW-17303-092811-CB-023	GW-17303-092711-CB-002	GW-17303-092711-CB-014	GW-17303-092811-CB-017	GW-17303-092911-CB-037	GW-17303-092811-CB-021	GW-17303-092811-CB-022	GW-17303-092711-CB-006	GW-17303-092711-CB-005	GW-17303-092711-CB-012	
Sample Date:	09/28/2011	09/28/2011	09/27/2011	09/27/2011	09/28/2011	09/29/2011	09/28/2011	09/28/2011	09/27/2011	09/27/2011	09/27/2011	
Sample Type:	Original	Original	Original	Original	Original	Original	Original	Original	Original	Original	Original	
Parameters	Units							Duplicate				
VOCs												
1,1,1-Trichloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,1,2-Trichloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,1-Dichloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,1-Dichloroethene	ug/L	1.0 U	420 U	120 J ^{ei}	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2-Dibromoethane (Ethylene dibromide)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2-Dichlorobenzene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2-Dichloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,2-Dichloropropane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,3-Dichlorobenzene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
1,4-Dichlorobenzene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	10 U	4200 U	4000 U	250 U	2000 U	10 U	1300 U	1300 U	5000 U	200 U	5000 U
2-Hexanone	ug/L	10 U	4200 U	4000 U	250 U	2000 U	10 U	1300 U	1300 U	5000 U	200 U	5000 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	10 U	4200 U	4000 U	250 U	2000 U	10 U	1300 U	1300 U	5000 U	200 U	5000 U
Acetone	ug/L	10 U	4200 U	4000 U	250 U	2000 U	10 U	1300 U	1300 U	5000 U	200 U	5000 U
Benzene	ug/L	1.0 U	420 U	400 U	25 ^{ei}	200 U	1.0 U	130 U	130 U	210 J ^{dei}	49 ^{ei}	500 U
Bromodichloromethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Bromoform	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Bromomethane (Methyl bromide)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Carbon disulfide	ug/L	5.0 U	2100 U	2000 U	130 U	1000 U	5.0 U	630 U	630 U	2500 U	100 U	2500 U
Carbon tetrachloride	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Chlorobenzene	ug/L	1.0 U	420 U	400 U	180 ^{dei}	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Chloroethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Chloroform (Trichloromethane)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
cis-1,2-Dichloroethene	ug/L	7.6	3700 ^{dei}	29000 ^{dehi}	800 ^{dei}	2000 ^{dei}	1.0 U	41 J	41 J	11000 ^{dei}	250 ^{ei}	500 U
cis-1,3-Dichloropropene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Cyclohexane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	39	500 U
Dibromochloromethane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Ethylbenzene	ug/L	1.0 U	420 U	340 J ^{dehi}	170 ^{dei}	200 U	1.0 U	130 U	130 U	500 U	83 ^{dei}	500 U
Isopropyl benzene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	84 ^d	500 U
Methyl acetate	ug/L	10 U	4200 U	4000 U	250 U	2000 U	10 U	1300 U	1300 U	5000 U	200 U	5000 U
Methyl cyclohexane	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Methyl tert butyl ether (MTBE)	ug/L	5.0 U	210 J ^{ei}	2000 U	130 U	1000 U	5.0 U	630 U	630 U	2500 U	100 U	2500 U
Methylene chloride	ug/L	5.0 U	2100 U	2000 U	130 U	66 J ^{ei}	5.0 U	630 U	630 U	2500 U	100 U	2500 U
Styrene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Tetrachloroethene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Toluene	ug/L	1.0 U	420 U	79 J	37	200 U	1.0 U	130 U	130 U	290 J ^d	20	500 U
trans-1,2-Dichloroethene	ug/L	0.67 J	420 U	200 J ^{ei}	16 J	200 U	1.0 U	130 U	130 U	410 J ^{ei}	20 U	500 U
trans-1,3-Dichloropropene	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Trichloroethene	ug/L	1.0 U	420 U	400 U	18 J ^{ei}	37 J ^{ei}	0.23 J	130 U	130 U	500 U	20 U	500 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	420 U	400 U	25 U	200 U	1.0 U	130 U	130 U	500 U	20 U	500 U
Vinyl chloride	ug/L	6.1 ^{ei}	9100 ^{dei}	8200 ^{cdei}	1600 ^{cdei}	6500 ^{dei}	1.0 U	3700 ^{cdei}	3700 ^{cdei}	32000 ^{defhi}	1100 ^{cdei}	11000 ^{dei}
Xylenes (total)	ug/L	2.0 U	830 U	740 J ^{dehi}	47 J ^d	400 U	2.0 U	250 U	250 U	1000 U	36 J	1000 U

Notes:

The analytical data is compared to the Michigan Part 201 generic cleanup criteria developed by the MDEQ under the authority of the Natural Resources and Environmental Protection Act (1994 PA 451, as amended) dated 03/25/11

The Michigan Part 201 criteria footnotes are presented in Attachment B.

NA - Criteria not available

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The associated value is qualified as an estimated quantity

UJ - The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise

TABLE 5
WASTE RESULTS
PAOC 18- IN-SITU WASTE CHARACTERIZATION EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

In-Situ Area			Area 1				Area 2			
Sample Location:	EPA		(0-5 feet)	(5-10 feet)	(10-15 feet)	(15-20 feet)	(0-5 feet)	(5-10 feet)	(10-15 feet)	(15-20 feet)
Composite Description:	TCLP		ISB-01 through 04	ISB-01 through 04	ISB-01 through 04	ISB-01 through 04	ISB-05 through 08	ISB-05 through 08	ISB-05 through 08	ISB-05 through 08
Sample ID:			S-17303-111511-CB-001	S-17303-111511-CB-002	S-17303-111511-CB-003	S-17303-111511-CB-004	S-17303-111511-CB-005	S-17303-111511-CB-006	S-17303-111511-CB-007	S-17303-111511-CB-008
Sample Date:			11/15/2011	11/15/2011	11/15/2011	11/15/2011	11/15/2011	11/15/2011	11/15/2011	11/15/2011
Parameters	Units									
TCLP VOCs										
1,1-Dichloroethene	mg/L	0.7	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	mg/L	0.5	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	mg/L	7.5	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	200	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	mg/L	0.5	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	mg/L	0.5	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chlorobenzene	mg/L	100	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform (Trichloromethane)	mg/L	6	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Tetrachloroethene	mg/L	0.7	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	mg/L	0.5	0.05 U	2.6	0.1 U	1.5	0.05 U	0.071	1.2	0.05 U
Vinyl chloride	mg/L	0.2	0.05 U	0.05 U	0.1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
TCLP SVOCs										
1,4-Dichlorobenzene	mg/L	7.5	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
2,4,5-Trichlorophenol	mg/L	400	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4,6-Trichlorophenol	mg/L	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4-Dinitrotoluene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2-Methylphenol	mg/L	200	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
3&4-Methylphenol	mg/L		0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.15	0.04 U
4-Methylphenol	mg/L	200	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachlorobutadiene	mg/L	0.5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachloroethane	mg/L	3	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nitrobenzene	mg/L	2	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Pentachlorophenol	mg/L	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Pyridine	mg/L	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
TCLP Metals										
Arsenic	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Barium	mg/L	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cadmium	mg/L	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chromium	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Copper	mg/L		--	--	--	--	--	--	--	--
Lead	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Mercury	mg/L	0.2	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Selenium	mg/L	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Silver	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Zinc	mg/L		--	--	--	--	--	--	--	--
PCBs		TSCA								
Aroclor-1016 (PCB-1016)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1221 (PCB-1221)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1232 (PCB-1232)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1242 (PCB-1242)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1248 (PCB-1248)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1254 (PCB-1254)	mg/kg		0.36 U	1.9 U	1.9 U	19 U	0.036 U	0.039 U	0.19 U	0.039 U
Aroclor-1260 (PCB-1260)	mg/kg		0.67	6.6	11	90	0.19	0.077	0.51	0.039 U
Total PCBs	mg/kg	50	0.67	6.6	11	90	0.19	0.077	0.51	0.039 U

Notes:
The analytical data is compared against 40 CFR Part 261.24 - Maximum Concentration of Contaminants for Toxicity Characteristic developed by EPA
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
EPA - Environmental Protection Agency
TCLP - Toxicity Characteristic Leachate Procedure
TSCA - Toxicity Control Substance Act

TABLE 5
WASTE RESULTS
PAOC 18- IN-SITU WASTE CHARACTERIZATION EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

In-Situ Area			Area 3				Area 4A			
Sample Location:	EPA		(0-5 feet)	(5-10 feet)	(10-15 feet)	(15-20 feet)	(0-5 feet)	(0-2 feet)	(2-7 feet)	(0-4 feet and 0-3 feet)
Composite Description:	TCLP		ISB-09 through ISB-12	ISB-09 through ISB-12	ISB-09 through ISB-12	ISB-11 and ISB-12	ISB-13 and ISB-14	SB18-111,112,113	SB18-111,112,113	SB18-114 and SB18-115
Sample ID:			S-17303-111511-CB-009	S-17303-111511-CB-010	S-17303-111511-CB-011	S-17303-111511-CB-012	S-17303-111411-CB-013	S-17303-082604-BW-496	S-17303-082604-BW-497	S-17303-082604-BW-504
Sample Date:			11/15/2011	11/15/2011	11/15/2011	11/15/2011	11/14/2011	08/26/2004	08/26/2004	08/26/2004
Parameters	Units									
TCLP VOCs										
1,1-Dichloroethene	mg/L	0.7	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
1,2-Dichloroethane	mg/L	0.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
1,4-Dichlorobenzene	mg/L	7.5	--	--	--	--	--	0.1 U	0.1 U	0.1 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
Benzene	mg/L	0.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
Carbon tetrachloride	mg/L	0.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
Chlorobenzene	mg/L	100	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
Chloroform (Trichloromethane)	mg/L	6	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
Tetrachloroethene	mg/L	0.7	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
Trichloroethene	mg/L	0.5	0.05 U	0.05 U	0.38	0.05 U	0.05 U	0.1 U	2.3	0.1 U
Vinyl chloride	mg/L	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U
TCLP SVOCs										
1,4-Dichlorobenzene	mg/L	7.5	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	--	--	--
2,4,5-Trichlorophenol	mg/L	400	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	1 U	1 U	1 U
2,4,6-Trichlorophenol	mg/L	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	1 U	1 U	1 U
2,4-Dinitrotoluene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.09 U	0.09 U
2-Methylphenol	mg/L	200	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	1 U	1 U	1 U
3&4-Methylphenol	mg/L		0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	--	--	--
4-Methylphenol	mg/L	200	--	--	--	--	--	1 U	1 U	1 U
Hexachlorobenzene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U	0.09 U	0.09 U
Hexachlorobutadiene	mg/L	0.5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.1 U	0.1 U	0.1 U
Hexachloroethane	mg/L	3	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.1 U	0.1 U	0.1 U
Nitrobenzene	mg/L	2	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.1 U	0.1 U	0.1 U
Pentachlorophenol	mg/L	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	1 U	1 U	1 U
Pyridine	mg/L	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.1 U	0.1 U	0.1 U
TCLP Metals										
Arsenic	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.02 U	0.02 U	0.02 U
Barium	mg/L	100	10 U	10 U	10 U	10 U	10 U	0.79	0.17	1.44
Cadmium	mg/L	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.008	0.008	0.018
Chromium	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.05 U	0.05 U	0.05 U
Copper	mg/L		--	--	--	--	--	0.05 U	0.05 U	0.05 U
Lead	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.03 U	0.04	0.03 U
Mercury	mg/L	0.2	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0002 U	0.0002 U	0.0002 U
Selenium	mg/L	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.05 U	0.05 U	0.05 U
Silver	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.005 U	0.005 U	0.005 U
Zinc	mg/L		--	--	--	--	--	0.18	0.68	0.96
PCBs										
TSCA										
Aroclor-1016 (PCB-1016)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1221 (PCB-1221)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1232 (PCB-1232)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1242 (PCB-1242)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1248 (PCB-1248)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1254 (PCB-1254)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	3.8 U	0.33 U	10 U	1 U
Aroclor-1260 (PCB-1260)	mg/kg		0.35 U	3.9 U	0.039 U	0.039 U	28	0.33 U	73	3.5
Total PCBs	mg/kg	50	0.35 U	3.9 U	0.039 U	0.039 U	28	0.33 U	73	3.5

Notes:
The analytical data is compared against 40 CFR Part 261.24 - Maximum Concentration of Contaminants for Toxicity Characteristic developed by EPA
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
EPA - Environmental Protection Agency
TCLP - Toxicity Characteristic Leachate Procedure
TSCA - Toxicity Control Substance Act

TABLE 5
WASTE RESULTS
PAOC 18- IN-SITU WASTE CHARACTERIZATION EVENT
SUMMARY OF FALL 2011 INVESTIGATION ACTIVITIES
WILLOW RUN COMPANY VEHICLE OPERATIONS
YPSILANTI, MICHIGAN

In-Situ Area			Area 4B				Area 5			Area 6			
Sample Location:	EPA		(0-5 feet)	(5-10 feet)	(10-15 feet)	(15-20 feet)	(0-5 feet)	(0-5 feet)	(5-10 feet)	(0-5 feet)	(5-10 feet)	(10-15 feet)	(15-20 feet)
Composite Description:	TCLP		ISB-15 and ISB-16	ISB-15 and ISB-16	ISB-15 and ISB-16	ISB-15	ISB-17 through ISB-19	ISB-20	ISB-20	ISB-21 through ISB-24	ISB-21 through ISB-24	ISB-21 through ISB-24	ISB-24
Sample ID:			S-17303-111411-CB-014	S-17303-111411-CB-015	S-17303-111411-CB-016	S-17303-111411-CB-017	S-17303-111411-CB-018	S-17303-111411-CB-019	S-17303-111411-CB-020	S-17303-111411-CB-021	S-17303-111411-CB-022	S-17303-111411-CB-023	S-17303-111411-CB-024
Sample Date:			11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011	11/14/2011
Parameters	Units												
TCLP VOCs													
1,1-Dichloroethene	mg/L	0.7	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	mg/L	0.5	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	mg/L	7.5	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	200	0.5 U	0.5 U	0.5 U	10 U	0.5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	mg/L	0.5	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	mg/L	0.5	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chlorobenzene	mg/L	100	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform (Trichloromethane)	mg/L	6	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Tetrachloroethene	mg/L	0.7	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	mg/L	0.5	0.05 U	0.05 U	0.05 U	32	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.057	0.05 U
Vinyl chloride	mg/L	0.2	0.05 U	0.05 U	0.05 U	1 U	0.05 U	0.2 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
TCLP SVOCs													
1,4-Dichlorobenzene	mg/L	7.5	0.004 U	0.004 U	0.0071	0.004	0.0045	0.004 U	0.004 U	0.004 U	0.004 U	0.0075	0.004 U
2,4,5-Trichlorophenol	mg/L	400	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4,6-Trichlorophenol	mg/L	2	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2,4-Dinitrotoluene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
2-Methylphenol	mg/L	200	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
3&4-Methylphenol	mg/L		0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
4-Methylphenol	mg/L	200	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/L	0.13	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachlorobutadiene	mg/L	0.5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Hexachloroethane	mg/L	3	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nitrobenzene	mg/L	2	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Pentachlorophenol	mg/L	100	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Pyridine	mg/L	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
TCLP Metals													
Arsenic	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Barium	mg/L	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cadmium	mg/L	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chromium	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Copper	mg/L		--	--	--	--	--	--	--	--	--	--	--
Lead	mg/L	5	0.62	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Mercury	mg/L	0.2	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Selenium	mg/L	1	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Silver	mg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Zinc	mg/L		--	--	--	--	--	--	--	--	--	--	--
PCBs		TSCA											
Aroclor-1016 (PCB-1016)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1221 (PCB-1221)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1232 (PCB-1232)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1242 (PCB-1242)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1248 (PCB-1248)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1254 (PCB-1254)	mg/kg		0.18 U	0.39 U	40 U	39 U	0.41 U	0.37 U	0.041 U	0.035 U	0.037 U	2 U	0.039 U
Aroclor-1260 (PCB-1260)	mg/kg		0.26	0.61	110	170	2.1	0.37 U	0.041 U	0.063	0.037 U	6.8	0.039 U
Total PCBs	mg/kg	50	0.26	0.61	110	170	2.1	0.37 U	0.041 U	0.063	0.037 U	6.8	0.039 U

Notes:
The analytical data is compared against 40 CFR Part 261.24 - Maximum Concentration of Contaminants for Toxicity Characteristic developed by EPA
U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
EPA - Environmental Protection Agency
TCLP - Toxicity Characteristic Leachate Procedure
TSCA - Toxicity Control Substance Act

ATTACHMENT A

STRATIGRAPHIC LOGS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MW19-29

DATE COMPLETED: September 21, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 268186.87 EASTING: 13344065.59	GROUND SURFACE TOP OF CASING 717.41 716.83						
	ASPHALT	717.06	CONCRETE					
2	GP-GRAVEL (FILL), fine to coarse grained, poorly graded, loose, gray, moist	716.81	BENTONITE CHIPS	0-2' -001/002				0.8
				1GP		75		
4	SP-SAND, trace gravel, fine to coarse sand, fine to coarse gravel, poorly graded, loose, brown, moist	714.66 713.91	2" PVC WELL CASING					0.8
6	CL-SILTY CLAY, with sand, trace gravel, fine to coarse sand, fine gravel, poorly graded, low plasticity, firm, brown, moist		8-1/2" BOREHOLE					0.8
8	SP-SAND, fine to coarse grained, poorly graded, compact, brown, moist			2GP		75		1.2
10	- fine grained at 5.0ft BGS		2" PVC WELL SCREEN	8-10' -003				0.9
12	- fine to coarse grained, with fine gravel at 5.7ft BGS		SAND PACK	10-12' -004				1.7
14	- with fine to coarse gravel at 8.5ft BGS			3GP		70		0.7
16	- moist to very moist at 10.0ft BGS							
18	- with silt, no gravel, fine to medium grained, gray, wet at 14.0ft BGS	702.41						1.4
20	SM-SANDY SILT, fine grained, poorly graded, compact, gray, wet	700.91		4GP		100		1.1
22	CL-SILTY CLAY, low plasticity, firm to stiff, gray, moist							0.5
24								
26								
28								
30								
32								
34								
36								
38								
	END OF BOREHOLE @ 20.0ft BGS	697.41						

WELL DETAILS

Screened interval:

710.41 to 700.41ft BGS

7.00 to 17.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

716.41 to 712.41ft BGS

1.00 to 5.00ft BGS

Material: BENTONITE CHIPS

Sand Pack:

712.41 to 700.41ft BGS

5.00 to 17.00ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 17303.GPJ GRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

HOLE DESIGNATION: MW19-30

PROJECT NUMBER: 17303

DATE COMPLETED: September 21, 2011

CLIENT: GENERAL MOTORS CORPORATION

DRILLING METHOD: GEOPROBE

LOCATION: YPSILANTI, MICHIGAN

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 268181.53 EASTING: 13343987.88	GROUND SURFACE TOP OF CASING 718.61 718.15						
2	CONCRETE	718.11	CONCRETE	0-2'-005				1.5
4	SP-SAND, fine grained, poorly graded, loose to compact, brown, moist		BENTONITE CHIPS	1GP		70		1.8
6	- fine to coarse grained, compact at 4.0ft BGS		2" PVC WELL CASING					1.4
8	- trace clay at 4.8ft BGS		8-1/2" BOREHOLE					1.1
10	- fine grained, no clay at 5.0ft BGS			2GP		75		0.5
12	- fine to coarse grained at 7.5ft BGS			8-10'-006				1.9
14	- fine grained at 8.0ft BGS			10-12'-007				1.9
16	- fine to coarse grained, with fine to coarse gravel, loose at 9.5ft BGS			3GP		70		1.0
18	- compact, very moist at 10.5ft BGS		2" PVC WELL SCREEN					1.7
20	- dense, wet at 12.0ft BGS		SAND PACK	4GP		70		2.1
22	- compact at 12.5ft BGS							1.0
24	- trace gravel, gray at 15.0ft BGS			5GP		100		0.6
26	CH-SILTY CLAY, trace sand, medium grained, high plasticity, firm to stiff, gray, moist	702.61 702.11						0.1
28	SM-SANDY SILT, fine grained, poorly graded, dense, gray, wet							
30	CH-SILTY CLAY, trace sand, medium grained, high plasticity, stiff, gray, moist	698.61						
32								
34	END OF BOREHOLE @ 25.0ft BGS	693.61						
36								
38								

WELL DETAILS

Screened interval:

708.11 to 698.11ft BGS

10.50 to 20.50ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

717.61 to 710.11ft BGS

1.00 to 8.50ft BGS

Material: BENTONITE CHIPS

Sand Pack:

710.11 to 698.11ft BGS

8.50 to 20.50ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MW19-31

DATE COMPLETED: September 21, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 268225.3 EASTING: 13343975.43 GROUND SURFACE TOP OF CASING	718.51 718.27						
	CONCRETE	718.16	CONCRETE					
2	SP-SAND (FILL), fine grained, poorly graded, loose, brown, moist - with fine to coarse gravel at 2.0ft BGS	716.01	BENTONITE CHIPS	0-2'-008				0.8
4	CL-SANDY CLAY (FILL), with gravel, fine to coarse sand, fine to coarse gravel, low plasticity, stiff, brown, moist - silty clay, trace fine to medium sand and fine gravel at 3.3ft BGS	715.01	2" PVC WELL CASING	1GP		85		0.9
6	SP-SAND (FILL), trace gravel, fine to coarse sand, fine to coarse gravel, poorly graded, compact, brown, moist	713.01 712.51 712.11	8-1/2" BOREHOLE					2.5
8	CONCRETE	709.76		2GP		95		0.8
10	GP-GRAVEL (FILL), fine to coarse grained, poorly graded, compact, gray, moist			8-10'-009				1.1
12	SP-SAND, fine to medium grained, poorly graded, dense, brown, moist	706.01	2" PVC WELL SCREEN	10-12'-010				1.3
14	SP-GRAVELLY SAND, fine to coarse sand, fine to coarse gravel, poorly graded, loose, brown, moist - compact, very moist at 10.5ft BGS		SAND PACK	3GP		70		1.8
16	SM-SILTY SAND, fine grained, poorly graded, compact, gray, wet - fine to medium grained at 14.5ft BGS							1.1
18	- fine grained at 16.8ft BGS	700.51		4GP		100		2.0
20	END OF BOREHOLE @ 20.0ft BGS							2.1
22								
24								
26								
28								
30								
32								
34								
36								
38								

WELL DETAILS

Screened interval:

710.01 to 700.01ft BGS

8.50 to 18.50ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

717.51 to 712.01ft BGS

1.00 to 6.50ft BGS

Material: BENTONITE CHIPS

Sand Pack:

712.01 to 700.01ft BGS

6.50 to 18.50ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11

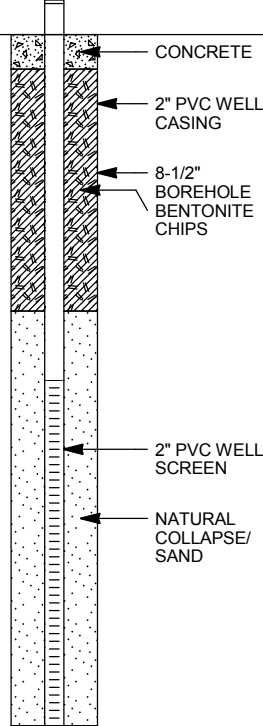


STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: RACER - CVO
PROJECT NUMBER: 017303
CLIENT: RACER TRUST
LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MWOS-02
DATE COMPLETED: November 30, 2011
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	NORTHING: 267959.1 EASTING: 13344536.64 TOP OF CASING GROUND SURFACE	721.25 718.46					
2	SEE STRATIGRAPHY FROM TWOS-02						
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
	END OF BOREHOLE @ 20.0ft BGS	698.46					
			<u>WELL DETAILS</u> Screened interval: 708.46 to 698.46ft BGS 10.00 to 20.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 717.46 to 710.46ft BGS 1.00 to 8.00ft BGS Material: BENTONITE CHIPS Sand Pack: 710.46 to 698.46ft BGS 8.00 to 20.00ft BGS Material: SAND				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 4/25/12



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MWOS-05

DATE COMPLETED: September 23, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267980.37 EASTING: 13345008.75	TOP OF CASING GROUND SURFACE 712.37 709.93						
	TOPSOIL	709.68	CONCRETE					
2	SC-CLAYEY SILTY SAND, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist		BENTONITE CHIPS	1GP		60		1.2
4	CL-SILTY CLAY, trace fine sand, low plasticity, firm, brown, moist	705.93 705.68	2" PVC WELL CASING					1.7
6	SM-SILTY SAND, trace clay and gravel, fine to coarse sand, fine to coarse gravel, poorly graded, compact, brown, moist		8-1/2" BOREHOLE					0.9
8	- trace wood debris, dark brown at 8.3ft BGS - with clay, no wood debris, brown at 9.0ft BGS - no clay or gravel, very moist at 9.4ft BGS		2" PVC WELL SCREEN	2GP		65		0.7
10	CH-SILTY CLAY, trace fine sand, high plasticity, stiff, gray, moist	699.93	SAND					1.1
12				3GP		90		1.3
14								0.8
16								0.9
18				4GP		100		0.9
20	END OF BOREHOLE @ 20.0ft BGS	689.93						0.4
22								
24								
26								
28								
30								
32								
34								
36								
38								

WELL DETAILS

Screened interval:

704.93 to 694.93ft BGS

5.00 to 15.00ft BGS

Length: 10ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

708.93 to 706.93ft BGS

1.00 to 3.00ft BGS

Material: BENTONITE CHIPS

Sand Pack:

706.93 to 694.93ft BGS

3.00 to 15.00ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MWOS-06

DATE COMPLETED: December 1, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	TOPSOIL	0.75	CONCRETE					
2	CL-SANDY CLAY (FILL), with gravel, fine to medium sand, fine to coarse gravel, low plasticity, firm, brown, moist	2.00	BENTONITE CHIPS	1GP		70		0.0
4	SP-SAND (FILL), with gravel, fine to medium sand, fine to coarse gravel, poorly graded, loose, brown, moist	2.25	2" PVC WELL CASING					0.0
6	CH-SILTY CLAY, moderate plasticity, stiff, brown, moist	2.75	8-1/2" BOREHOLE					0.0
8	SP-SAND, with silt, trace gravel, interbedded with gray silty clay lenses, fine to medium sand, fine to coarse gravel, poorly graded, compact, gray, moist			2GP		70		0.0
10	- compact at 3.0ft BGS							0.0
12	- very moist to wet at 7.5ft BGS			3GP		40		0.0
14	- moist at 8.0ft BGS							0.0
16	- wet at 15.0ft BGS		2" PVC WELL SCREEN	4GP		70		0.0
18			SAND PACK	5GP		65		0.0
20	END OF BOREHOLE @ 20.0ft BGS	20.00		6GP		60		0.0
22			<u>WELL DETAILS</u> Screened interval: 13.00 to 18.00ft BGS Length: 5ft Diameter: 2in Slot Size: 0.010 Material: PVC Seal: 1.00 to 11.00ft BGS Material: BENTONITE CHIPS Sand Pack: 11.00 to 18.00ft BGS Material: SAND					
24								
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: MWOS-07

DATE COMPLETED: December 1, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	TOPSOIL							
2	CL-SANDY CLAY (FILL), trace gravel, fine to coarse sand, fine to coarse gravel, low plasticity, firm, brown, moist	1.00	CONCRETE	1GP		75		0.0
4			BENTONITE CHIPS					0.0
6			2" PVC WELL CASING					0.0
8			8-1/2" BOREHOLE	2GP		70		0.0
10	SP/GP-SAND AND GRAVEL (FILL), medium to coarse sand, fine to coarse gravel, poorly graded, loose, brown, moist - very moist to wet at 8.5ft BGS	8.25 9.25 9.50	2" PVC WELL SCREEN					0.0
12	CL-SANDY CLAY (FILL), trace gravel, fine to coarse sand, fine to coarse gravel, low plasticity, firm, brown, wet		SAND PACK	3GP		25		0.0
14	SP/GP-SAND AND GRAVEL (FILL), medium to coarse sand, fine to coarse gravel, poorly graded, loose, brown, moist	14.00		4GP		100		0.0
16	SC-CLAYEY SAND (FILL), fine grained, loose, brown, wet	16.00						0.0
18	END OF BOREHOLE @ 16.0ft BGS							
20								
22								
24								
26								
28								
30								
32								
34								
36								
38								

WELL DETAILS

Screened interval:

8.00 to 13.00ft BGS

Length: 5ft

Diameter: 2in

Slot Size: 0.010

Material: PVC

Seal:

1.00 to 6.00ft BGS

Material: BENTONITE CHIPS

Sand Pack:

6.00 to 13.00ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: SBOS-03A

DATE COMPLETED: September 22, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	TOPSOIL							1.8
2	SC-CLAYEY SAND, with gravel, fine to coarse sand, fine gravel, poorly graded, compact, brown, very moist	2.00		1GP		80		1.9
4	CL-SANDY CLAY, trace gravel, fine to coarse sand, fine to coarse gravel, low plasticity, firm, brown, moist	4.00						1.2
6	SP-SAND, with clay, trace gravel, fine sand, fine to coarse gravel, poorly graded, compact, brown, moist	5.00						2.0
8	- dark brown at 5.5ft BGS	7.50		2GP		60		2.2
10	- brown at 5.8ft BGS	9.50						1.7
12	CL-SANDY CLAY, with gravel, fine to coarse sand, fine to coarse gravel, low plasticity, firm, brown, moist			3GP		80		1.8
14	SP-SILTY SAND, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, loose, brown, moist							2.7
16	- wet at 15.0ft BGS	16.10		4GP		80		1.5
18	CL-SILTY CLAY, low plasticity, stiff, gray, moist							0.9
20	END OF BOREHOLE @ 20.0ft BGS	20.00						
22	NOTE: WELL ABANDONED ON 11/30/11							
24								
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: SBOS-04A

DATE COMPLETED: September 22, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	TOPSOIL							
2	SC-CLAYEY SAND, fine to medium grained, poorly graded, loose, brown, moist	1.00 1.50		1GP		100		0.8
4	SP-SAND, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, loose to compact, brown, moist							0.5
6	- fine to coarse sand, with fine to coarse gravel at 2.3ft BGS							0.5
8	- fine to medium sand, trace gravel at 2.7ft BGS			2GP		75		0.6
10	- no coarse gravel at 3.0ft BGS	7.50						0.7
12	- gravelly sand, trace clay, fine to coarse sand, fine to coarse gravel, compact at 4.7ft BGS							1.1
14	- no clay, loose at 5.0ft BGS	10.00		3GP		55		1.6
16	SM-SILTY SAND, fine grained, poorly graded, loose, brown, moist	11.00						1.3
18	CL-SILTY SANDY CLAY, fine to coarse sand, low plasticity, stiff, gray, moist							0.8
20	SP-SAND, with silty clay lenses, fine to medium grained, poorly graded, gray, moist	14.00		4GP		90		0.7
22	CL-SILTY CLAY, trace sand and gravel, fine to coarse sand, fine to coarse gravel, moderate plasticity, stiff, gray, moist	15.00 15.50						
24	SP-SAND, with silt, fine to medium grained, poorly graded, loose to compact, gray, wet							
26	CL-SILTY CLAY, trace sand and gravel, fine to coarse sand, fine to coarse gravel, low plasticity, stiff, gray, moist							
28	- 2" sand lens at 18.5ft BGS	20.00						
30	END OF BOREHOLE @ 20.0ft BGS							
32	NOTE: WELL ABANDONED ON 11/30/11							
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: SBOS-06A

DATE COMPLETED: December 1, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	BOREHOLE INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267995.57 EASTING: 13344704.9	GROUND SURFACE 711.58						
	TOPSOIL	711.33 711.08						
2	CL-SANDY CLAY (FILL), trace gravel, fine to coarse sand, fine to coarse gravel, low plasticity, firm, brown, moist	709.08 708.83 708.08 707.58 707.08		1GP		85		0.0
4	SP-SAND (FILL), with clay, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist							0.0
6	CH-SILTY CLAY, with sand, trace gravel, fine to medium sand, fine to coarse gravel, moderate plasticity, stiff, brown, moist							0.0
8	SP-SAND, with silt, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist	703.58		2GP		70		0.0
10	CH-SILTY CLAY, with sand, trace gravel, fine to medium sand, fine to coarse gravel, moderate plasticity, firm, brown, moist	701.58 701.08						0.0
12	SP-SAND, with silt, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist			3GP		60		0.0
14	CH-SILTY CLAY, with sand, trace gravel, fine to medium sand, fine to coarse gravel, high plasticity, firm, brown, moist	697.08						0.0
16	SP-SAND, with silt and clay, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, very moist			4GP		100		0.0
18	CH-SILTY CLAY, with sand, trace gravel, fine to medium sand, fine to coarse gravel, high plasticity, firm, brown, moist			5GP		100		0.0
20	SP-SAND, with silt and clay, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, very moist			6GP		100		0.0
22	CH-SILTY CLAY, with sand, trace gravel, fine to medium sand, fine to coarse gravel, high plasticity, firm, brown, moist			7GP		100		0.0
24	END OF BOREHOLE @ 22.0ft BGS	689.58						
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: SBOS-06C

DATE COMPLETED: December 1, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	BOREHOLE INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267992.5 EASTING: 13344705.37 GROUND SURFACE	712.11						
	TOPSOIL	711.11						
2	CL-SANDY CLAY (FILL), with gravel, fine to medium sand, fine to coarse gravel, low plasticity, firm, brown, moist	709.86 709.36 709.11		1GP		85		0.0
4	SP-SAND (FILL), with gravel, fine to medium sand, fine to coarse gravel, poorly graded, loose, brown, moist							0.0
6	CH-SILTY CLAY, with sand, trace gravel, fine to coarse sand, fine to coarse gravel, moderate plasticity, stiff, brown, moist			2GP		60		0.0
8	SP-SAND, with silt, trace gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist							0.0
10								0.0
12				3GP		60		0.0
14	- gray, moist to very moist at 13.5ft BGS							0.0
16	CH-SILTY CLAY, with sand, trace gravel, fine to coarse sand, fine to coarse gravel, high plasticity, stiff, gray, moist	697.61		4GP		100		0.0
18				5GP		100		0.0
20				6GP		100		0.0
22	END OF BOREHOLE @ 21.0ft BGS	691.11						
24								
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA_CORP.GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: TWOS-01

DATE COMPLETED: September 23, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267943.43 EASTING: 13344321.1 TOP OF CASING GROUND SURFACE	720.97 719.64						
	ASPHALT	719.29	BENTONITE CHIPS					2.4
2	CL-SANDY CLAY, with silt and gravel, fine to coarse sand, fine to coarse gravel, low plasticity, stiff, brown, moist	716.64	1" PVC WELL CASING	1GP		85		2.8
4	SC-CLAYEY SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist	715.64	2-1/4" BOREHOLE					3.0
6	SP-SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist	712.64		2GP		65		2.7
8	- with clay at 4.0ft BGS - no clay at 5.0ft BGS	711.24 710.94 710.14 709.89	1" PVC WELL SCREEN					1.9
10	SC-CLAYEY SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, very moist		NATURAL COLLAPSE/ SAND	3GP		70		2.4
12	CL-SANDY CLAY, with silt and gravel, fine to coarse sand, fine to coarse gravel, low plasticity, stiff, brown, moist							2.0
14	SC-CLAYEY SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist	705.14						2.2
16	CL-SANDY CLAY, with silt and gravel, fine to coarse sand, fine to coarse gravel, low plasticity, stiff, brown, moist			4GP		85		2.0
18	CH-SILTY CLAY, trace fine sand, high plasticity, soft to firm, brown, very moist							1.8
20	SP-GRAVELLY SAND, medium to coarse sand, fine to coarse gravel, poorly graded, loose to compact, brown, moist	700.14 699.64						
22	CH-SILTY CLAY, trace fine sand, high plasticity, soft to firm, brown, very moist							
24	END OF BOREHOLE @ 20.0ft BGS							
26	NOTE: WELL ABANDONED ON 11/30/11							
28								
30								
32								
34								
36								
38								

WELL DETAILS

Screened interval:

711.14 to 701.14ft BGS

8.50 to 18.50ft BGS

Length: 10ft

Diameter: 1in

Slot Size: 0.010

Material: PVC

Seal:

719.64 to 718.64ft BGS

0.00 to 1.00ft BGS

Material: BENTONITE CHIPS

Sand Pack:

718.64 to 701.14ft BGS

1.00 to 18.50ft BGS

Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: TWOS-02

DATE COMPLETED: September 23, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267959.05 EASTING: 13344536.88	TOP OF CASING GROUND SURFACE 719.85 718.37						
	ASPHALT	718.02						
2	CL-SILTY CLAY, trace fine sand, low plasticity, stiff, brown, moist	716.62 716.12		1GP		60		0.9
4	SC-CLAYEY SAND, trace gravel, fine to medium sand, fine gravel, poorly graded, compact, brown, moist	714.12 713.87						1.0
6	SP-SAND, trace gravel, fine to medium sand, fine gravel, poorly graded, compact, brown, moist	712.37						2.2
8	CL-SANDY CLAY, fine to medium grained, low plasticity, stiff, brown, moist	709.87 709.37		2GP		65		1.6
10	SP-SAND, with fine to coarse gravel, fine to medium sand, fine gravel, poorly graded, compact, brown, moist							2.0
12	SC-CLAYEY SAND, with fine to coarse gravel, fine to medium sand, fine gravel, poorly graded, compact, brown, moist							2.8
14	CL-SILTY CLAY, trace fine sand, low plasticity, stiff, brown, moist			3GP		55		1.9
16	SP-GRAVELLY SAND, fine to coarse sand, fine to coarse gravel, poorly graded, compact, brown, moist - gray at 11.5ft BGS	703.57 703.37						0.7
18	ML-SILT, no plasticity, firm to stiff, gray, wet	700.37 700.12		4GP		60		1.3
20	SM-SILTY SAND, fine grained, poorly graded, compact, gray, moist to very moist	699.12 698.37						0.9
22	CL-SILTY CLAY, low plasticity, stiff, gray, moist							
24	SM-SILTY SAND, fine to medium grained, poorly graded, compact, gray, moist to very moist							
26	CL-SILTY CLAY, low plasticity, stiff, gray, moist							
28	END OF BOREHOLE @ 20.0ft BGS							
30								
32								
34								
36								
38								

WELL DETAILS
Screened interval:
709.87 to 699.87ft BGS
8.50 to 18.50ft BGS
Length: 10ft
Diameter: 1in
Slot Size: 0.010
Material: PVC
Seal:
718.37 to 717.37ft BGS
0.00 to 1.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:
717.37 to 699.87ft BGS
1.00 to 18.50ft BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

PROJECT NUMBER: 17303

CLIENT: GENERAL MOTORS CORPORATION

LOCATION: YPSILANTI, MICHIGAN

HOLE DESIGNATION: TWOS-03

DATE COMPLETED: September 23, 2011

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	NORTHING: 267976.07 EASTING: 13344722.12 TOP OF CASING GROUND SURFACE	718.15 713.39						
	TOPSOIL							
2	CL-SANDY CLAY, with gravel and silt, fine to medium sand, fine to coarse gravel, low plasticity, stiff, brown, moist - increase in sand at 3.0ft BGS	712.39	BENTONITE CHIPS 1" PVC WELL CASING 2-1/4" BOREHOLE 1" PVC WELL SCREEN NATURAL COLLAPSE/ SAND	1GP		85		1.2
4	SC-CLAYEY SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist	709.79 708.39						1.5
6	SP-SAND, with gravel and silt, medium to coarse sand, fine to coarse gravel, poorly graded, loose, brown, moist - fine to medium grained, no gravel at 7.0ft BGS - fine grained at 7.5ft BGS - gravelly sand, fine to coarse sand, fine to coarse gravel, compact, gray at 10.0ft BGS - medium to coarse sand at 10.5ft BGS - with silty clay lenses at 13.0ft BGS			2GP		90		1.1
8								0.8
10								0.2
12								0.9
14	SM-SILTY SAND, fine grained, poorly graded, compact, gray, very moist	699.89		3GP		60		1.3
16	CL-SILTY CLAY, trace sand, fine to medium grained, low plasticity, stiff, gray, moist	698.89 698.39 697.89						1.3
18	SM-SILTY SAND, fine grained, poorly graded, compact, gray, wet			4GP		100		1.1
20	CL-SILTY CLAY, trace sand, fine to medium grained, low plasticity, stiff, gray, moist							0.8
22	END OF BOREHOLE @ 20.0ft BGS	693.39						
24	NOTE: WELL ABANDONED ON 11/30/11							
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM - WRBC

HOLE DESIGNATION: TWOS-04

PROJECT NUMBER: 17303

DATE COMPLETED: September 23, 2011

CLIENT: GENERAL MOTORS CORPORATION

DRILLING METHOD: GEOPROBE

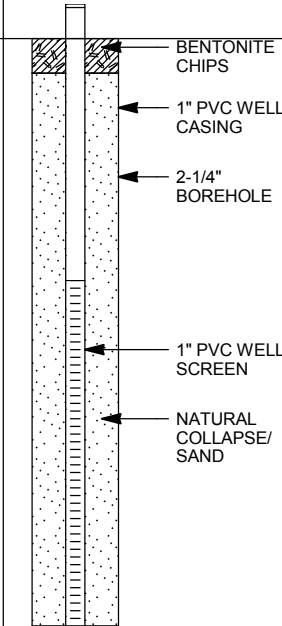
LOCATION: YPSILANTI, MICHIGAN

FIELD PERSONNEL: C. BONDY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft BGS	TEMP MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	P/D (ppm)
	NORTHING: 267977.2 EASTING: 13344881.44	TOP OF CASING GROUND SURFACE 714.58 712.05						
	TOPSOIL	711.40						
2	GP-GRAVEL (FILL), fine to coarse grained, poorly graded, loose, gray, moist	711.05						1.0
	ASPHALT DEBRIS	709.55						
4	- with concrete debris at 2.0ft BGS	709.25						1.4
	SC-CLAYEY SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist							1.7
6		706.30						
	SP-SAND, with gravel, fine to medium sand, fine to coarse gravel, poorly graded, compact, brown, moist							2.4
8	- gravelly sand, medium to coarse sand, fine to coarse gravel at 4.3ft BGS							1.3
10								
	SM-SILTY SAND, fine to medium grained, poorly graded, compact, light gray, moist - very moist at 10.0ft BGS	700.80						0.8
12		700.45						
	CL-SILTY CLAY, trace sand and gravel, fine to medium sand, fine to coarse gravel, low plasticity, firm, brown, moist	700.05						1.5
14								
	SM-SILTY SAND, fine to medium grained, poorly graded, compact, light gray, very moist to wet	697.05						1.1
16		696.55						
	CL-SILTY CLAY, trace sand and gravel, fine to medium sand, fine to coarse gravel, low plasticity, firm, brown, moist							0.9
18								
	SM-SILTY SAND, fine to medium grained, poorly graded, compact, light gray, wet							1.2
20		692.05						
	CL-SILTY CLAY, trace sand and gravel, fine to medium sand, fine to coarse gravel, low plasticity, firm, brown, moist							
22								
	END OF BOREHOLE @ 20.0ft BGS							
24								
	NOTE: WELL ABANDONED ON 11/30/11							
26								
28								
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 17303.GPJ CRA CORP GDT 12/23/11



WELL DETAILS

Screened interval:

705.05 to 695.05ft BGS

7.00 to 17.00ft BGS

Length: 10ft

Diameter: 1in

Slot Size: 0.010

Material: PVC

Seal:

712.05 to 711.05ft BGS

0.00 to 1.00ft BGS

Material: BENTONITE CHIPS

Sand Pack:

711.05 to 695.05ft BGS

1.00 to 17.00ft BGS

Material: SAND

ATTACHMENT B

CRITERIA FOOTNOTES

FOOTNOTES FOR MDEQ PART 201 CRITERIA
DOCUMENT RELEASE DATE: MARCH 25, 2011

NLL - Hazardous substance is not likely to leach under most soil conditions.

NLV - Hazardous substance is not likely to volatilize under most conditions.

ID - Insufficient data to develop criterion.

A - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

E - Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in the table.

C - Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat) since the calculated risk-based criterion is greater than Csat. Concentrations greater than

D - Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

R - The data is qualified as unusable. (Note: Analyte may or may not be present).

M - Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

S - Criterion defaults to the hazardous substance - specific water solubility limit.

X - The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

W - Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.

DD - Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.

APPENDIX C

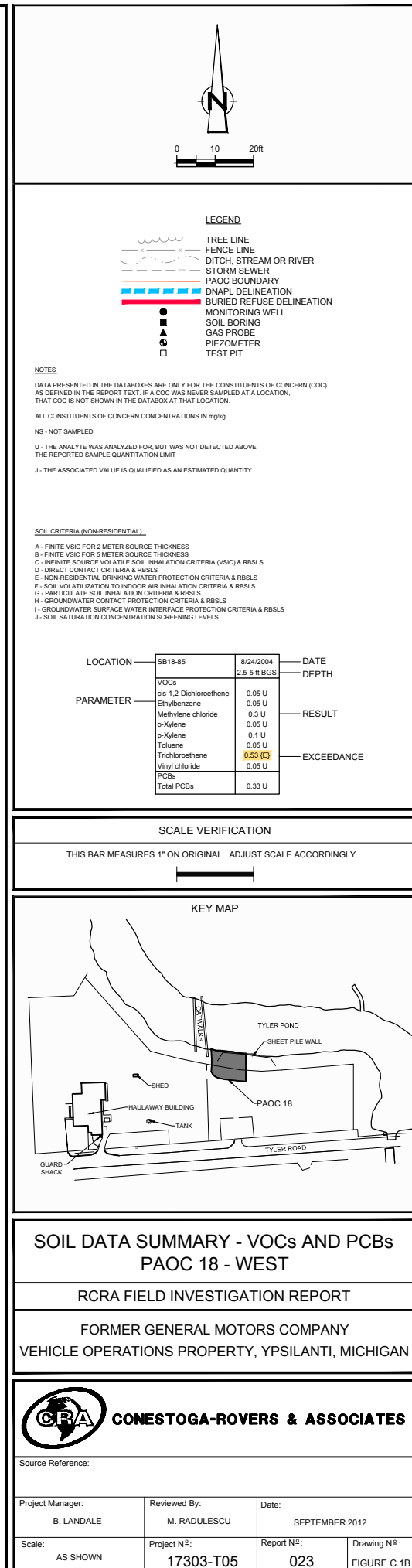
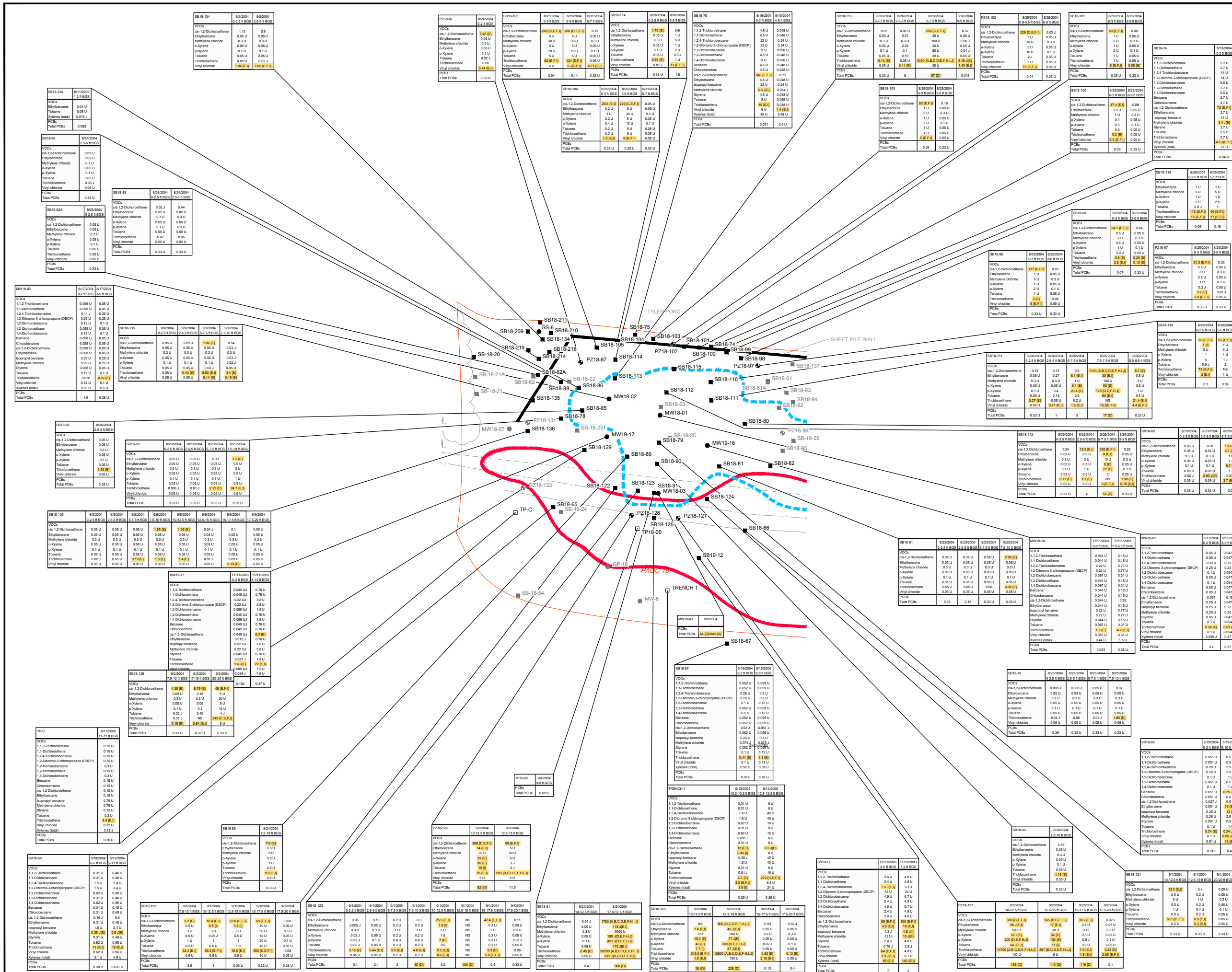
DATABOX FIGURES

Appendix C

Table of Contents

Figure C.1A	Soil Data Summary- VOCs and PCBs PAOC: 18-EAST
Figure C.1B	Soil Data Summary- VOCs and PCBs PAOC 18-WEST
Figure C.2A	Soil Data Summary- SVOCs PAOC: 18-EAST
Figure C.2B	Soil Data Summary- SVOCS PAOC 18-WEST
Figure C.3A	Soil Data Summary- INORGANICS PAOC: 18-EAST
Figure C.3B	Soil Data Summary- INORGANICS PAOC 18-WEST
Figure C.4	Soil Data Summary- VOCs and PCBs PAOCs: 20/23/24
Figure C.4 mar	Soil Data Summary- VOCs and PCBs PAOCs: 20/23/24
Figure C.5	Soil Data Summary- SVOCs PAOCs: 20/23/24
Figure C.6	Soil Data Summary- INORGANICS PAOCs: 20/23/24
Figure C.7	Soil Data Summary- VOCs and PCBs PAOC: 29
Figure C.8	Soil Data Summary- SVOCs PAOC: 29
Figure C.9	Soil Data Summary- INORGANICS PAOC: 29
Figure C.10	Soil Data Summary- VOCs and PCBs Sitewide
Figure C.11	Groundwater Data Summary- VOCs and PCBs NORTHWEST AREA
Figure C.12	Groundwater Data Summary- SVOCs NORTHWEST AREA
Figure C.13	Groundwater Data Summary- INORGANICS NORTHWEST AREA
Figure C.14	Groundwater Data Summary- VOCs and PCBs NORTHEAST AREA
Figure C.15	Groundwater Data Summary- SVOCs NORTHEAST AREA
Figure C.16	Groundwater Data Summary- INORGANICS NORTHEAST AREA

Figure C.17A	Groundwater Data Summary- VOCS and PCBSs SOUTHWEST AREA 1996 to 2003
Figure C.17B	Groundwater Data Summary- VOCS and PCBSs SOUTHWEST AREA 2006 to 2012
Figure C.18	Groundwater Data Summary- SVOCS SOUTHWEST AREA
Figure C.19	Groundwater Data Summary- INORGANICS SOUTHWEST AREA
Figure C.20	Groundwater Data Summary- VOCs and PCBs SOUTHEAST AREA
Figure C.21	Groundwater Data Summary- SVOCs SOUTHEAST AREA
Figure C.22	Groundwater Data Summary- INORGANICS SOUTHEAST AREA



SB-18-22	12/1/1996 2.4 ft BGS
SVOCs	
2-Methylnaphthalene	0.43
Acenaphthene	0.38 U
Acenaphthylene	0.38 U
Anthracene	0.38 U
Benzo(a)anthracene	0.63
Benzo(a)pyrene	0.38 U
Benzo(b)fluoranthene	0.59
Benzo(k)fluoranthene	0.59
Dibenz(a,h)anthracene	0.38 U
Fluoranthene	0.67
Fluorene	0.38 U
Indeno(1,2,3-cd)pyrene	0.43
Naphthalene	0.38 U
Phenanthrene	0.44

SB18-75	5/19/2004 0.2 ft BGS	5/19/2004 4-5 ft BGS
SVOCs		
2,4-Dimethylphenol	0.37 U	0.4 U
2-Methylnaphthalene	0.37 U	0.4 U
4-Methylphenol	0.37 U	0.4 U
Acenaphthene	0.37 U	0.4 U
Acenaphthylene	0.37 U	0.4 U
Anthracene	0.37 U	0.4 U
Benzo(a)anthracene	0.068 J	0.4 U
Benzo(a)pyrene	0.077 J	0.4 U
Benzo(b)fluoranthene	0.13 J	0.4 U
Benzo(k)fluoranthene	0.05 J	0.4 U
Carbazole	0.37 U	0.4 U
Dibenz(a,h)anthracene	0.37 U	0.4 U
Dibenzofuran	0.37 U	0.4 U
Di-n-butylphthalate (DBP)	0.37 U	0.4 U
Fluoranthene	0.22 J	0.4 U
Fluorene	0.37 U	0.4 U
Indeno(1,2,3-cd)pyrene	0.058 J	0.4 U
Naphthalene	0.37 U	0.4 U
Phenanthrene	0.1 J	0.4 U
Phenol	0.37 U	0.4 U

MW18-02	5/17/2004 0-2 ft BGS	5/17/2004 3-5 ft BGS
SVOCs		
2,4-Dimethylphenol	1.9 U	0.38 U
2-Methylnaphthalene	1.9 U	0.38 U
3,4-Methylphenol	NS	NS
4-Methylphenol	1.9 U	0.38 U
Acenaphthene	1.9 U	0.38 U
Acenaphthylene	1.9 U	0.38 U
Anthracene	1.9 U	0.38 U
Benzo(a)anthracene	1.9 U	0.38 U
Benzo(a)pyrene	1.9 U	0.38 U
Benzo(b)fluoranthene	1.9 U	0.38 U
Benzo(k)fluoranthene	1.9 U	0.38 U
Carbazole	1.9 U	0.38 U
Dibenz(a,h)anthracene	1.9 U	0.38 U
Dibenzofuran	1.9 U	0.38 U
Di-n-butylphthalate (DBP)	1.9 U	0.38 U
Fluoranthene	1.9 U	0.38 U
Fluorene	1.9 U	0.38 U
Indeno(1,2,3-cd)pyrene	1.9 U	0.38 U
Naphthalene	1.9 U	0.38 U
Phenanthrene	1.9 U	0.38 U
Phenol	1.9 U	0.38 U

SB18-74	5/19/2004 0-2 ft BGS
SVOCs	
2,4-Dimethylphenol	0.42 U
2-Methylnaphthalene	0.018 J
4-Methylphenol	0.42 U
Acenaphthene	0.42 U
Acenaphthylene	0.42 U
Anthracene	0.42 U
Benzo(a)anthracene	0.42 U
Benzo(a)pyrene	0.42 U
Benzo(b)fluoranthene	0.42 U
Benzo(k)fluoranthene	0.42 U
Carbazole	0.42 U
Dibenz(a,h)anthracene	0.42 U
Dibenzofuran	0.42 U
Di-n-butylphthalate (DBP)	0.42 U
Fluoranthene	0.42 U
Fluorene	0.42 U
Indeno(1,2,3-cd)pyrene	0.42 U
Naphthalene	0.42 U
Phenanthrene	0.022 J
Phenol	0.42 U

MW18-01	5/17/2004 0-2 ft BGS	5/17/2004 3-5 ft BGS
SVOCs		
2,4-Dimethylphenol	8 U	0.37 U
2-Methylnaphthalene	8 U	0.37 U
3,4-Methylphenol	NS	NS
4-Methylphenol	8 U	0.37 U
Acenaphthene	8 U	0.37 U
Acenaphthylene	8 U	0.37 U
Anthracene	8 U	0.37 U
Benzo(a)anthracene	8 U	0.37 U
Benzo(a)pyrene	8 U	0.37 U
Benzo(b)fluoranthene	8 U	0.37 U
Benzo(k)fluoranthene	8 U	0.37 U
Carbazole	8 U	0.37 U
Dibenz(a,h)anthracene	8 U	0.37 U
Dibenzofuran	8 U	0.37 U
Di-n-butylphthalate (DBP)	8 U	0.37 U
Fluoranthene	8 U	0.37 U
Fluorene	8 U	0.37 U
Indeno(1,2,3-cd)pyrene	8 U	0.37 U
Naphthalene	8 U	0.37 U
Phenanthrene	8 U	0.37 U
Phenol	8 U	0.37 U

SB-18-20	12/1/1996 0.5-2 ft BGS
SVOCs	
2-Methylnaphthalene	54 (U)
Acenaphthene	5.6
Acenaphthylene	6.3
Anthracene	3.5 U
Benzo(a)anthracene	3.5
Benzo(a)pyrene	3.5 U
Benzo(b)fluoranthene	3.5 U
Benzo(k)fluoranthene	3.5 U
Dibenz(a,h)anthracene	3.5 U
Fluoranthene	3.5 U
Fluorene	6 (U)
Indeno(1,2,3-cd)pyrene	3.5 U
Naphthalene	62 (U)
Phenanthrene	6.7 (U)

SB-18-21A	12/1/1996 0-0.5 ft BGS	12/1/1996 4-6 ft BGS	12/1/1996 6-8 ft BGS
SVOCs			
2-Methylnaphthalene	0.33 U	5.3 (U)	0.33 U
Acenaphthene	0.33 U	0.71	0.33 U
Acenaphthylene	0.33 U	0.33 U	0.33 U
Anthracene	0.33 U	1.7 U	0.33 U
Benzo(a)anthracene	0.97	1.7 U	0.33 U
Benzo(a)pyrene	0.89	1.7 U	0.33 U
Benzo(b)fluoranthene	1.6	1.7 U	0.33 U
Benzo(k)fluoranthene	0.33 U	1.7 U	0.33 U
Dibenz(a,h)anthracene	0.33 U	1.7 U	0.33 U
Fluoranthene	2.3	1.7 U	0.33 U
Fluorene	0.33 U	1.6	0.33 U
Indeno(1,2,3-cd)pyrene	0.99	1.7 U	0.33 U
Naphthalene	0.33 U	0.96 (U)	0.33 U
Phenanthrene	1.1	1.7 U	0.33 U

SB18-214	8/11/2005 1-2 ft BGS
SVOCs	
2,4-Dimethylphenol	0.26 U
2-Methylnaphthalene	0.039 J
Acenaphthene	0.26 U
Anthracene	0.26 U
Di-n-butylphthalate (DBP)	0.26 U
Fluoranthene	0.031 J
Naphthalene	0.26 U
Phenanthrene	0.061 J

SB-18-25	12/1/1996 2.4 ft BGS
SVOCs	
2-Methylnaphthalene	0.33 U
Acenaphthene	0.33 U
Acenaphthylene	0.33 U
Anthracene	0.33 U
Benzo(a)anthracene	0.33 U
Benzo(a)pyrene	0.33 U
Benzo(b)fluoranthene	0.33 U
Benzo(k)fluoranthene	0.33 U
Dibenz(a,h)anthracene	0.33 U
Dibenzofuran	0.33 U
Di-n-butylphthalate (DBP)	0.33 U
Fluoranthene	0.33 U
Fluorene	0.33 U
Indeno(1,2,3-cd)pyrene	0.33 U
Naphthalene	0.33 U
Phenanthrene	0.33 U

MW19-18	11/11/2003 0-2 ft BGS	11/11/2003 7.5-9.5 ft BGS
SVOCs		
2,4-Dimethylphenol	0.37 U	0.38 U
2-Methylnaphthalene	0.37 U	0.38 U
4-Methylphenol	0.37 U	0.38 U
Acenaphthene	0.37 U	0.38 U
Acenaphthylene	0.37 U	0.38 U
Anthracene	0.37 U	0.38 U
Benzo(a)anthracene	0.02 J	0.38 U
Benzo(a)pyrene	0.024 J	0.38 U
Benzo(b)fluoranthene	0.034 J	0.38 U
Benzo(k)fluoranthene	0.37 U	0.38 U
Carbazole	0.37 U	0.38 U
Dibenz(a,h)anthracene	0.37 U	0.38 U
Dibenzofuran	0.37 U	0.38 U
Di-n-butylphthalate (DBP)	0.026 J	0.38 U
Fluoranthene	0.05 J	0.38 U
Fluorene	0.37 U	0.38 U
Indeno(1,2,3-cd)pyrene	0.37 U	0.38 U
Naphthalene	0.37 U	0.38 U
Phenanthrene	0.027 J	0.38 U
Phenol	0.37 U	0.38 U

SB18-66	5/19/2004 0-2 ft BGS	5/19/2004 8-10 ft BGS
SVOCs		
2,4-Dimethylphenol	0.36 U	7.9 U
2-Methylnaphthalene	0.12 J	12 (U)
4-Methylphenol	0.36 U	7.9 U
Acenaphthene	0.36 U	1.3 J
Acenaphthylene	0.36 U	7.9 U
Anthracene	0.086 J	1.3 J
Benzo(a)anthracene	0.35 J	0.79 J
Benzo(a)pyrene	0.35 J	0.54 J
Benzo(b)fluoranthene	0.47	0.74 J
Benzo(k)fluoranthene	0.19 J	7.9 U
Carbazole	0.03 J	0.48 J
Dibenz(a,h)anthracene	0.079 J	7.9 U
Dibenzofuran	0.037 J	0.96 J
Di-n-butylphthalate (DBP)	0.36 U	2.5 J
Fluoranthene	0.97	2.9 J
Fluorene	0.36 U	1.8 J
Indeno(1,2,3-cd)pyrene	0.22 J	7.9 U
Naphthalene	0.06 J	9.3 (U)
Phenanthrene	0.55	5.9 (U)
Phenol	0.36 U	7.9 U

SB-18-23	12/1/1996 0.5-2 ft BGS	12/1/1996 4-6 ft BGS	12/1/1996 6-8 ft BGS
SVOCs			
2-Methylnaphthalene	0.33 U	1.4	0.33 U
Acenaphthene	0.33 U	4.7	0.33 U
Acenaphthylene	0.33 U	0.33 U	0.33 U
Anthracene	0.33 U	6.8	0.33 U
Benzo(a)anthracene	0.33 U	8	0.33 U
Benzo(a)pyrene	0.33 U	3.3 U	0.33 U
Benzo(b)fluoranthene	0.33 U	8.3	0.42
Benzo(k)fluoranthene	0.33 U	3.3 U	0.33 U
Dibenz(a,h)anthracene	0.33 U	3.3 U	0.33 U
Fluoranthene	0.33 U	22 (U)	0.9
Fluorene	0.33 U	4.4	0.33 U
Indeno(1,2,3-cd)pyrene	0.33 U	3.3 U	0.4
Naphthalene	0.33 U	4.9 (U)	0.33 U
Phenanthrene	0.33 U	24 (U)	0.41

TP-C	6/13/2005 11-11 ft BGS
SVOCs	
2,4-Dimethylphenol	0.26 U
2-Methylnaphthalene	0.26 U
4-Methylphenol	0.26 U
Acenaphthene	0.26 U
Acenaphthylene	0.26 U
Anthracene	0.26 U
Benzo(a)anthracene	0.26 U
Benzo(a)pyrene	0.26 U
Benzo(b)fluoranthene	0.26 U
Benzo(k)fluoranthene	0.26 U
Carbazole	0.26 U
Dibenz(a,h)anthracene	0.26 U
Dibenzofuran	0.26 U
Di-n-butylphthalate (DBP)	0.26 U
Fluoranthene	0.26 U
Fluorene	0.26 U
Indeno(1,2,3-cd)pyrene	0.26 U
Naphthalene	0.26 U
Phenanthrene	0.26 U
Phenol	0.26 U

SB18-65	5/19/2004 0-2 ft BGS	5/19/2004 9-11 ft BGS
SVOCs		
2,4-Dimethylphenol	0.38 U	0.37 U
2-Methylnaphthalene	0.38 U	0.37 U
4-Methylphenol	0.38 U	0.37 U
Acenaphthene	0.38 U	0.37 U
Acenaphthylene	0.38 U	0.37 U
Anthracene	0.38 U	0.37 U
Benzo(a)anthracene	0.38 U	0.37 U
Benzo(a)pyrene	0.041 J	0.37 U
Benzo(b)fluoranthene	0.067 J	0.37 U
Benzo(k)fluoranthene	0.38 U	0.37 U
Carbazole	0.38 U	0.37 U
Dibenz(a,h)anthracene	0.38 U	0.37 U
Dibenzofuran	0.38 U	0.37 U
Di-n-butylphthalate (DBP)	0.38 U	0.37 U
Fluoranthene	0.38 U	0.37 U
Fluorene	0.38 U	0.37 U
Indeno(1,2,3-cd)pyrene	0.053 J	0.37 U
Naphthalene	0.38 U	0.37 U
Phenanthrene	0.018 J	0.37 U
Phenol	0.38 U	0.37 U

SB-18-24	12/1/1996 0.67-2.2 ft BGS
SVOCs	
2-Methylnaphthalene	0.33 U
Acenaphthene	0.93
Acenaphthylene	0.33 U
Anthracene	3
Benzo(a)anthracene	7.8
Benzo(a)pyrene	6.6
Benzo(b)fluoranthene	6.4
Benzo(k)fluoranthene	7.4
Carbazole	0.75
Dibenz(a,h)anthracene	1.1
Dibenzofuran	4.9
Di-n-butylphthalate (DBP)	0.33 U
Fluoranthene	0.33 U
Fluorene	0.33 U
Indeno(1,2,3-cd)pyrene	0.33 U
Naphthalene	0.33 U
Phenanthrene	0.33 U
Phenol	9.1 (U)

MW19-17	11/11/2003 0-2 ft BGS	11/11/2003 8-10 ft BGS
SVOCs		
2,4-Dimethylphenol	0.37 U	0.37 U
2-Methylnaphthalene	0.37 U	0.37 U
4-Methylphenol	0.37 U	0.37 U
Acenaphthene	0.37 U	0.37 U
Acenaphthylene	0.37 U	0.37 U
Anthracene	0.37 U	0.37 U
Benzo(a)anthracene	0.037 J	0.37 U
Benzo(a)pyrene	0.044 J	0.37 U
Benzo(b)fluoranthene	0.043 J	0.37 U
Benzo(k)fluoranthene	0.033 J	0.37 U
Carbazole	0.37 U	0.37 U
Dibenz(a,h)anthracene	0.37 U	0.37 U
Dibenzofuran	0.37 U	0.37 U
Di-n-butylphthalate (DBP)	0.37 U	0.37 U
Fluoranthene	0.08 J	0.37 U
Fluorene	0.37 U	0.37 U
Indeno(1,2,3-cd)pyrene	0.025 J	0.37 U
Naphthalene	0.37 U	0.37 U
Phenanthrene	0.037 J	0.37 U
Phenol	0.37 U	0.37 U

TRENCH 1	6/13/2005 10.2-10.2 ft BGS	6/14/2005 12.5-12.5 ft BGS
SVOCs		
2,4-Dimethylphenol	0.26 U	0.53 U
2-Methylnaphthalene	0.26 U	0.53 U
4-Methylphenol	0.26 U	0.53 U
Acenaphthene	0.26 U	0.53 U
Acenaphthylene	0.26 U	0.53 U
Anthracene	0.26 U	0.53 U
Benzo(a)anthracene	0.26 U	0.53 U
Benzo(a)pyrene	0.26 U	0.53 U
Benzo(b)fluoranthene	0.26 U	0.53 U
Benzo(k)fluoranthene	0.26 U	0.53 U
Carbazole	0.26 U	0.53 U
Dibenz(a,h)anthracene	0.26 U	0.53 U
Dibenzofuran	0.26 U	0.53 U
Di-n-butylphthalate (DBP)	0.26 U	0.53 U
Fluoranthene	0.26 U	0.53 U
Fluorene	0.26 U	0.53 U
Indeno(1,2,3-cd)pyrene	0.26 U	0.53 U
Naphthalene	0.26 U	0.054 J
Phenanthrene	0.26 U	0.53 U
Phenol	0.26 U	0.53 U

SB18-67	5/19/2004 0-2 ft BGS	5/19/2004 6-8 ft BGS
SVOCs		
2,4-Dimethylphenol	0.35 U	0.38 U
2-Methylnaphthalene	0.35 U	0.38 U
4-Methylphenol	0.35 U	0.38 U
Acenaphthene	0.35 U	0.38 U
Acenaphthylene	0.35 U	0.38 U
Anthracene	0.35 U	0.38 U
Benzo(a)anthracene	0.35 U	0.38 U
Benzo(a)pyrene	0.35 U	0.38 U
Benzo(b)fluoranthene	0.016 U	0.38 U
Benzo(k)fluoranthene	0.35 U	0.38 U
Carbazole	0.35 U	0.38 U
Dibenz(a,h)anthracene	0.35 U	0.38 U
Dibenzofuran	0.35 U	0.38 U
Din-butylphthalate (DBP)	0.35 U	0.38 U
Fluoranthene	0.35 U	0.044 U
Fluorene	0.35 U	0.38 U
Indeno(1,2,3-cd)pyrene	0.35 U	0.38 U
Naphthalene	0.35 U	0.38 U
Phenanthrene	0.35 U	0.081 U
Phenol	0.35 U	0.38 U

SB18-214	8/11/2005	1-2 ft BGS
Inorganics		
Antimony	R	
Barium	51.5	
Cadmium	0.59 J	
Chromium	11.3	
Cobalt	6.6	
Lead	39.2 J	
Lead - coarse fraction	32.9 J	
Lead - fine fraction	55.3 J	
Manganese	325	
Mercury	0.040 U	
Selenium	0.37 UJ	
Silver	0.089	
Zinc	47.1	

SB18-20	12/14/1996	12/14/1996	12/14/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS
Inorganics			
Lead	220	2800 (D,E)	13

SB18-21A	12/13/1996	12/13/1996	12/13/1996	12/13/1996	12/13/1996	12/13/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS
Inorganics						
Lead	360	730 (E)	1400 (D,E)	570	11	12

SB18-21	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS
Inorganics						
Lead	450	7300 (D,E)	2100 (D,E)	160	8	5

MW18-02	5/17/2004	5/17/2004
	0-2 ft BGS	3-5 ft BGS
Inorganics		
Aluminum	5620	3070
Antimony	0.35 J	0.58 UJ
Arsenic	3.6	3.0
Barium	136	10.4
Cadmium	1.5	0.077
Chromium	49.0 J	6.5 J
Cobalt	4.0	2.7
Copper	15.2	9.9
Cyanide (total)	11.1 U	0.23 U
Iron	8150	7490
Lead	34.8 J	4.0 J
Magnesium	2190	783
Manganese	109 J	113 J
Mercury	0.061 J	0.0097 J
Nickel	9.9	9.3
Selenium	0.89 (I)	0.16 J
Silver	0.66	0.58 U
Thallium	0.23 U	0.12 U
Zinc	62.1 J	23.4 J

SB18-23	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	10-12 ft BGS
Inorganics						
Lead	530	610	320	360	490	120

SB18-277	2/7/2012	0-2 ft BGS
Inorganics		
Chromium	17	
Chromium III (trivalent)	16	
Chromium VI (hexavalent)	0.71 J	

MW19-17	11/11/2003	11/11/2003
	0-2 ft BGS	8-10 ft BGS
Inorganics		
Aluminum	5300	3680
Antimony	0.57 UJ	0.57 UJ
Arsenic	3.0	1.3
Barium	37.9	16.6
Cadmium	0.18	0.16
Chromium	10	7.5
Cobalt	5.0	3.9
Copper	11.5	9.1
Cyanide (total)	0.23 U	0.23 U
Iron	10800	7420
Lead	6.3	4.2
Magnesium	9940	10800
Manganese	285	153
Mercury	0.027 J	0.11 U
Nickel	11.9	9.8
Selenium	0.23 U	0.23 U
Silver	0.57 U	0.57 U
Thallium	0.13	0.11
Zinc	34.1	27.8

SB18-54	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS
Inorganics							
Lead	70	12	37	7	7	7	6

TP-C	6/13/2005	11-11 ft BGS
Inorganics		
Antimony	0.071 J	
Arsenic	9.1 (E,I)	
Barium	22.1	
Cadmium	0.20	
Chromium	8.3	
Cobalt	5.0	
Copper	11.5	
Cyanide (total)	0.23 U	
Iron	10800	
Lead	6.3	
Magnesium	9940	
Manganese	285	
Mercury	0.027 J	
Nickel	11.9	
Selenium	0.23 U	
Silver	0.57 U	
Thallium	0.13	
Zinc	34.1	

SB18-65	5/19/2004	5/19/2004
	0-2 ft BGS	9-11 ft BGS
Inorganics		
Aluminum	3990	2440
Antimony	0.57 UJ	0.58 UJ
Arsenic	4.1	1.2
Barium	42.1 J	11.7 J
Cadmium	0.63 J	0.075 J
Chromium	7.8 J	5.1 J
Cobalt	4.2	4.3
Copper	9.7 J	7.7 J
Cyanide (total)	0.23 U	0.22 U
Iron	8570	4590
Lead	11.1 J	3.1 J
Magnesium	13100	10600
Manganese	233 J	131 J
Mercury	0.017 J	0.011 J
Nickel	10.3	8.1
Selenium	0.24 J	0.26 J
Silver	0.57 U	0.56 U
Thallium	0.19	0.090 J
Zinc	34.2	19.3

SB18-24	12/18/1996	12/18/1996	12/18/1996	12/18/1996	12/18/1996	12/18/1996	12/18/1996
	0.17-0.67 ft BGS	0.67-2.2 ft BGS	2.2-4.2 ft BGS	4.2-6.2 ft BGS	6.2-8.2 ft BGS	8.2-10.2 ft BGS	10.2-11.5 ft BGS
Inorganics							
Lead	33	190	710 (E)	6	6	10	7

TRENCH 1	6/13/2005	6/14/2005
	10-12 ft BGS	12.5-12.5 ft BGS
Inorganics		
Antimony	0.032 J	0.048 J
Arsenic	2.0 J	2.0 J
Barium	36.5	58.3
Cadmium	0.20	0.24
Chromium	12.6	20.9
Cobalt	6.3	9.1 (E,I)
Copper	15.8	20.9
Lead	12.2	13.7
Lead - coarse fraction	9.6	10.9
Lead - fine fraction	14.0	24.1
Manganese	272 J	372
Mercury	0.0061 J	0.031 J
Nickel	19.1	27.2
Selenium	0.16 U	0.23 J
Silver	0.053 J	0.051 J
Thallium	0.21	0.20 J
Zinc	37.3	34.9

SB18-67	5/19/2004	5/19/2004
	0-2 ft BGS	9-11 ft BGS
Inorganics		
Aluminum	2900	4090
Antimony	0.53 UJ	0.58 UJ
Arsenic	2.1	2.1
Barium	20.8 J	13.5 J
Cadmium	0.22 J	0.038 J
Chromium	4.8 J	9.0 J
Cobalt	1.9	2.3
Copper	3.1 J	5.7 J
Cyanide (total)	0.21 U	0.23 U
Iron	4310	6550
Lead	4.4 J	3.3 J
Magnesium	722	1840
Manganese	61.7 J	106 J
Mercury	0.035 J	0.018 J
Nickel	3.9	6.3
Selenium	0.16 J	0.14 J
Silver	0.53 U	0.58 U
Thallium	0.065 J	0.12 U
Zinc	14.2	17.5

SB18-66	5/19/2004	5/19/2004
	0-2 ft BGS	8-10 ft BGS
Inorganics		
Aluminum	4350	2600
Antimony	0.55 UJ	1.5 J
Arsenic	1.6	2.7
Barium	37.7 J	418 J
Cadmium	0.17 J	3.6 J
Chromium	7.0 J	91.2 J
Cobalt	2.4	6.4
Copper	4.4 J	16.9 J
Cyanide (total)	0.22 U	0.24 U
Iron	6530	5560
Lead	11.6 J	227 J
Magnesium	17800	1190
Manganese	122 J	56.9 J
Mercury	0.018 J	0.021 J
Nickel	5.5	8.2
Selenium	0.22 UJ	0.96 J (I)
Silver	0.55 U	0.60 U
Thallium	0.071 J	0.12 U
Zinc	22.1	316

SB19-12	11/21/2003	11/21/2003
	3-5 ft BGS	7-9 ft BGS
Inorganics		
Aluminum	3060	4300
Antimony	1.4	2.3
Arsenic	1.8	2.9
Barium	16.7	41.9
Cadmium	0.50	0.70
Chromium	35.8	214
Cobalt	3.6	7.0 J (E,I)
Copper	12.0	8.6 J
Cyanide (total)	0.095 J	0.22 U
Iron	5030	6940
Lead	24.1	32.3
Magnesium	809	4400
Manganese	44.9	112
Mercury	0.11 U	0.030 J
Nickel	6.6	8.1 J
Selenium	0.23 U	0.22 U
Silver	0.57 U	0.55 U
Thallium	0.052 J	0.15
Zinc	91.6	545 J (I)

SB18-214	8/11/2005	1-2 ft BGS
Inorganics		
Antimony	R	
Barium	51.5	
Cadmium	0.59 J	
Chromium	11.3	
Cobalt	6.6	
Lead	39.2 J	
Lead - coarse fraction	32.9 J	
Lead - fine fraction	55.3 J	
Manganese	325	
Mercury	0.040 U	
Selenium	0.37 UJ	
Silver	0.089	
Zinc	47.1	

SB18-20	12/14/1996	12/14/1996	12/14/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS
Inorganics			
Lead	220	2800 (D,E)	13

SB18-21A	12/13/1996	12/13/1996	12/13/1996	12/13/1996	12/13/1996	12/13/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS
Inorganics						
Lead	360	730 (E)	1400 (D,E)	570	11	12

SB18-21	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS
Inorganics						
Lead	450	7300 (D,E)	2100 (D,E)	160	8	5

MW18-02	5/17/2004	5/17/2004
	0-2 ft BGS	3-5 ft BGS
Inorganics		
Aluminum	5620	3070
Antimony	0.35 J	0.58 UJ
Arsenic	3.6	3.0
Barium	136	10.4
Cadmium	1.5	0.077
Chromium	49.0 J	6.5 J
Cobalt	4.0	2.7
Copper	15.2	9.9
Cyanide (total)	11.1 U	0.23 U
Iron	8150	7490
Lead	34.8 J	4.0 J
Magnesium	2190	783
Manganese	109 J	113 J
Mercury	0.061 J	0.0097 J
Nickel	9.9	9.3
Selenium	0.89 (I)	0.16 J
Silver	0.66	0.58 U
Thallium	0.23 U	0.12 U
Zinc	62.1 J	23.4 J

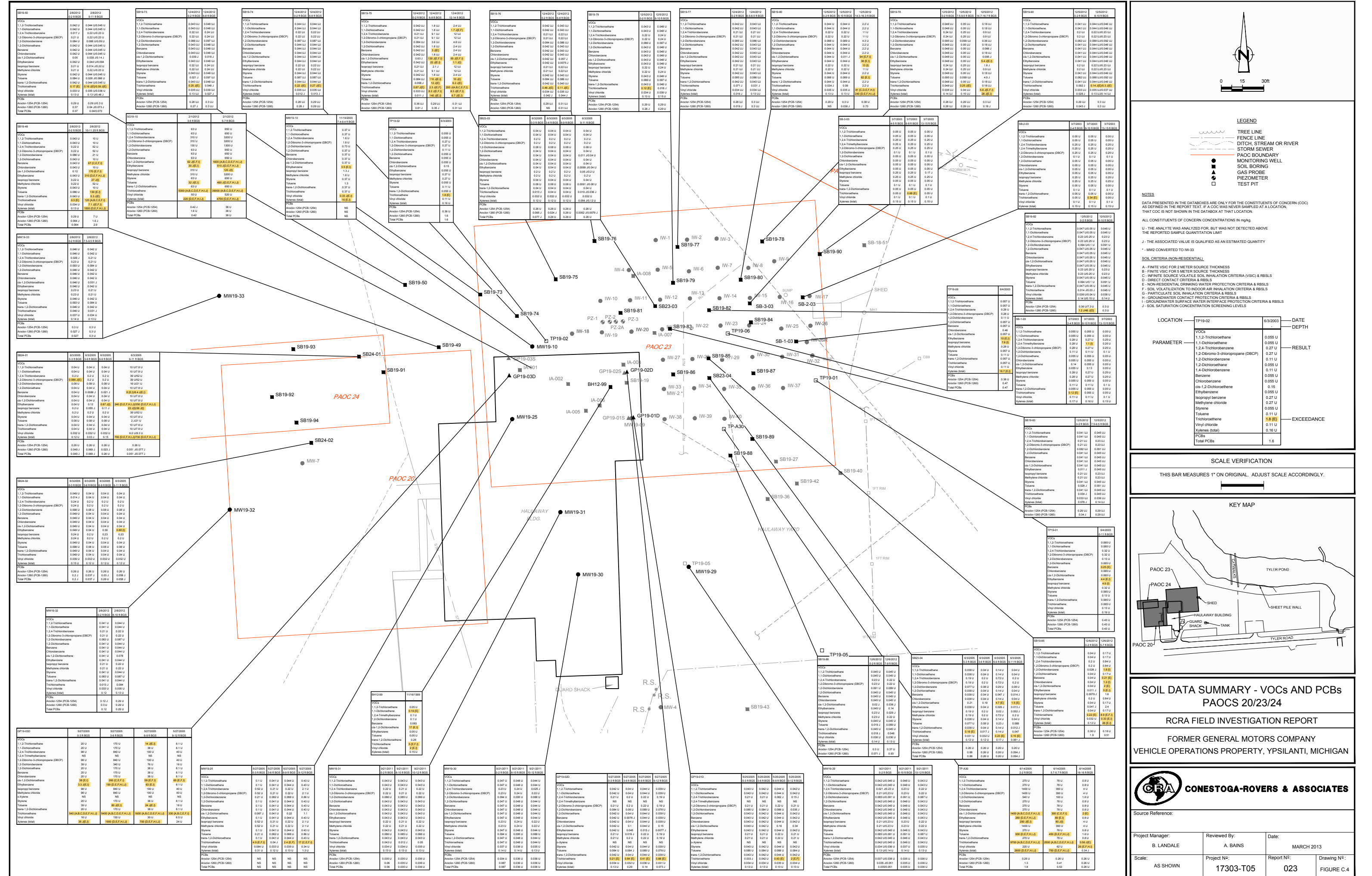
SB18-23	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996	12/11/1996
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	10-12 ft BGS
Inorganics						
Lead	530	610	320	360	490	120

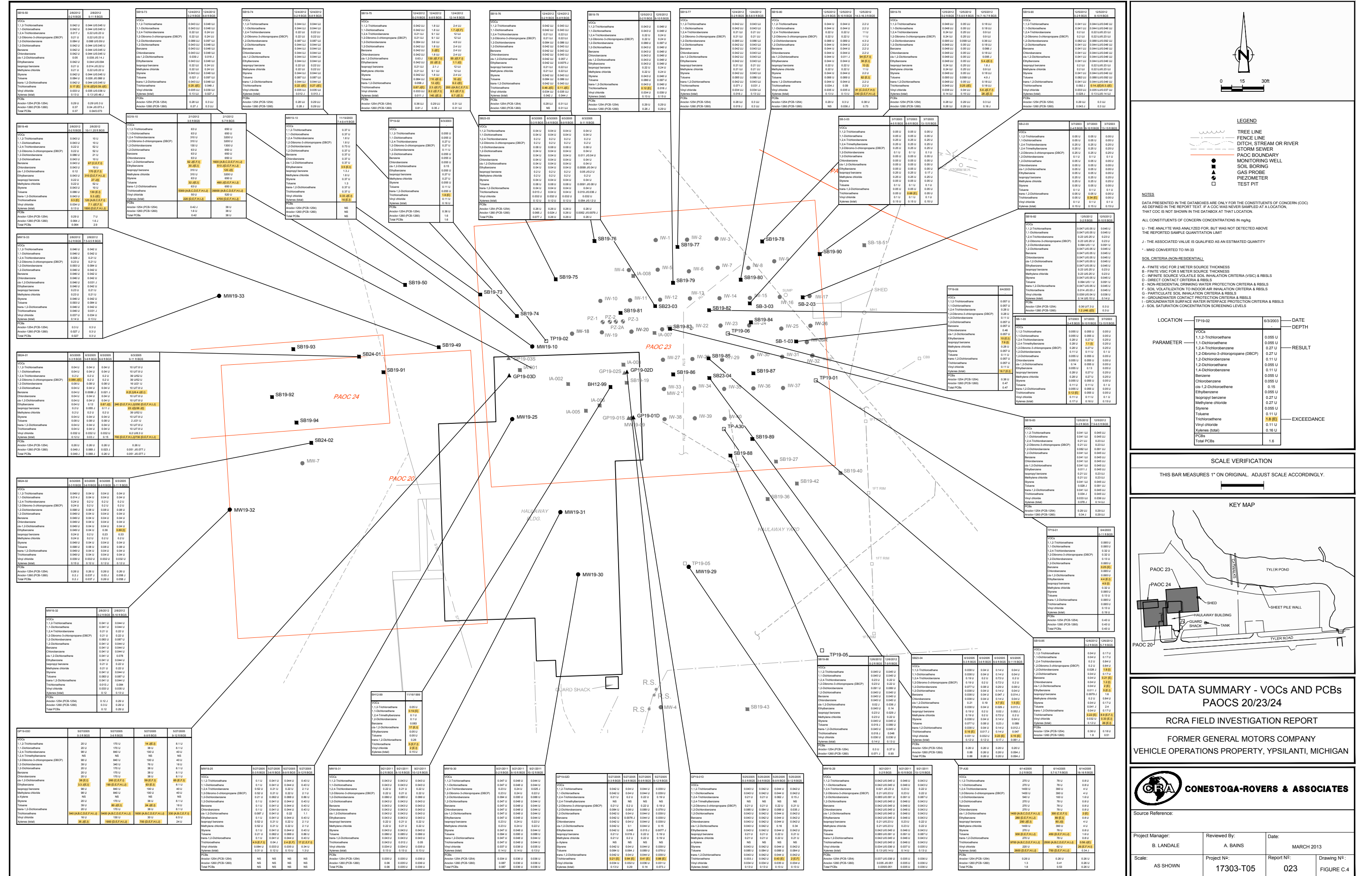
SB18-277	2/7/2012	0-2 ft BGS
Inorganics		
Chromium	17	
Chromium III (trivalent)	16	
Chromium VI (hexavalent)	0.71 J	

MW19-17	11/11/2003	11/11/2003
	0-2 ft BGS	8-10 ft BGS
Inorganics		
Aluminum	5300	3680
Antimony	0.57 UJ	0.57 UJ
Arsenic	3.0	1.3
Barium	37.9	16.6
Cadmium	0.18	0.16
Chromium	10	7.5
Cobalt	5.0	3.9
Copper	11.5	9.1
Cyanide (total)	0.23 U	0.23 U
Iron	10800	7420
Lead	6.3	4.2
Magnesium	9940	10800
Manganese	285	153
Mercury	0.027 J	0.11 U
Nickel	11.9	9.8
Selenium	0.23 U	0.23 U
Silver	0.57 U	0.57 U
Thallium	0.13	0.11
Zinc	34.1	27.8

SB18-54	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997	3/22/1997
	0-0.5 ft BGS	0.5-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS
Inorganics							
Lead	70	12	37	7	7	7	6

TP-C	6/13/2005	11-11 ft BGS
Inorganics		
Antimony	0.071 J	
Arsenic	9.1 (E,I)	
Barium	22.1	
Cadmium	0.20	
Chromium	8.3	
Cobalt	5.0	
Copper	11.5	
Cyanide (total)	0.23 U	
Iron	10800	
Lead	6.3	
Magnesium	9940	
Manganese	285	
Mercury	0.027 J	
Nickel	11.9	
Selenium	0.23 U	
Silver	0.57 U	
Thallium	0.13	
Zinc	34.1	





MW19-33	2/8/2012 0-2 ft BGS	2/8/2012 7.5-9.5 ft BGS
SVOCs		
2,4-Dimethylphenol	0.3 U	0.3 U
2-Methylnaphthalene	0.006 J	0.3 U
3,4-Methylphenol	0.3 U	0.3 U
Acenaphthene	0.3 U	0.3 U
Acenaphthylene	0.016 J	0.3 U
Anthracene	0.028 J	0.3 U
Benzo(a)anthracene	0.17 J	0.3 U
Benzo(a)pyrene	0.2 J	0.3 U
Benzo(b)fluoranthene	0.34	0.3 U
Benzo(k)fluoranthene	0.11 J	0.3 U
Carbazole	0.3 U	0.3 U
Dibenz(a,h)anthracene	0.036 J	0.3 U
Dibenzofuran	0.004 J	0.3 U
Di-n-butylphthalate (DBP)	0.3 U	0.3 U
Fluoranthene	0.3	0.3 U
Fluorene	0.0061 J	0.3 U
Indeno(1,2,3-cd)pyrene	0.15 J	0.3 U
Naphthalene	0.0085 J	0.3 U
Phenanthrene	0.095 J	0.3 U
Phenol	0.3 U	0.3 U

SB24-02	6/3/2005 0-3 ft BGS	6/3/2005 3-6 ft BGS	6/3/2005 6-9 ft BGS	6/3/2005 9-11 ft BGS
SVOCs				
2,4-Dimethylphenol	0.26 U	0.26 U	2.6 U	11 U
2-Methylnaphthalene	0.02 J	0.26 U	2.6 U	24 (U)
3,4-Methylphenol	0.26 U	0.26 U	2.6 U	11 U
Acenaphthene	0.26 U	0.26 U	2.6 U	11 U
Acenaphthylene	0.26 U	0.26 U	2.6 U	11 U
Anthracene	0.26 U	0.016 J	2.6 U	11 U
Benzo(a)anthracene	0.021 J	0.099 J	2.6 U	11 U
Benzo(a)pyrene	0.035 J	0.092 J	2.6 U	11 U
Benzo(b)fluoranthene	0.045 J	0.11 J	2.6 U	11 U
Benzo(k)fluoranthene	0.017 J	0.054 J	2.6 U	11 U
Carbazole	0.26 U	0.26 U	2.6 U	11 U
Dibenz(a,h)anthracene	0.26 U	0.028 J	2.6 U	11 U
Dibenzofuran	0.26 U	0.26 U	2.6 U	1.1 J
Di-n-butylphthalate (DBP)	0.26 U	0.26 U	2.6 U	11 U
Fluoranthene	0.041 J	0.17 J	2.6 U	11 U
Fluorene	0.26 U	0.26 U	2.6 U	11 U
Indeno(1,2,3-cd)pyrene	0.026 J	0.047 J	2.6 U	11 U
Naphthalene	0.26 U	0.26 U	2.6 U	4.4 (U)
Phenanthrene	0.019 J	0.049 J	0.63 J	4.4 (U)
Phenol	0.26 U	0.26 U	2.6 U	11 U

MW19-32	2/8/2012 0-2 ft BGS	2/8/2012 8-10 ft BGS
SVOCs		
2,4-Dimethylphenol	0.3 U	0.3 U
2-Methylnaphthalene	0.0053 J	0.3 U
3,4-Methylphenol	0.3 U	0.3 U
Acenaphthene	0.3 U	0.3 U
Acenaphthylene	0.3 U	0.3 U
Anthracene	0.0042 J	0.3 U
Benzo(a)anthracene	0.043 J	0.3 U
Benzo(a)pyrene	0.054 J	0.3 U
Benzo(b)fluoranthene	0.076 J	0.3 U
Benzo(k)fluoranthene	0.027 J	0.3 U
Carbazole	0.3 U	0.3 U
Dibenz(a,h)anthracene	0.0089 J	0.3 U
Dibenzofuran	0.3 U	0.3 U
Di-n-butylphthalate (DBP)	0.3 U	0.3 U
Fluoranthene	0.065 J	0.3 U
Fluorene	0.3 U	0.3 U
Indeno(1,2,3-cd)pyrene	0.036 J	0.3 U
Naphthalene	0.0041 J	0.3 U
Phenanthrene	0.018 J	0.3 U
Phenol	0.3 U	0.3 U

SB19-49	2/8/2012 0-2 ft BGS	2/8/2012 10-11.25 ft BGS
SVOCs		
2,4-Dimethylphenol	0.29 U	57 U
2-Methylnaphthalene	0.005 J	74 (U)
3,4-Methylphenol	0.29 U	11 (U)
Acenaphthene	0.011 J	11 (U)
Acenaphthylene	0.29 U	57 U
Anthracene	0.03 J	4.9 J
Benzo(a)anthracene	0.16 J	5.1 J
Benzo(a)pyrene	0.15 J	3.1 J
Benzo(b)fluoranthene	0.23 J	5.1 J
Benzo(k)fluoranthene	0.1 J	1.7 J
Carbazole	0.29 U	57 U
Dibenz(a,h)anthracene	0.29 U	57 U
Dibenzofuran	0.0078 J	7 (U)
Di-n-butylphthalate (DBP)	0.29 U	57 U
Fluoranthene	0.3	24 (U)
Fluorene	0.013 J	10 (U)
Indeno(1,2,3-cd)pyrene	0.096 J	1.4 J
Naphthalene	0.0061 J	130 (E, J)
Phenanthrene	0.15 J	29 (U)
Phenol	0.29 U	57 U

TP19-02	6/3/2003 -
SVOCs	
2,4-Dimethylphenol	0.72 U
2-Methylnaphthalene	3.3
3,4-Methylphenol	0.72 U
Acenaphthene	20 (U)
Acenaphthylene	0.72 U
Anthracene	26
Benzo(a)anthracene	47
Benzo(a)pyrene	41 (U)
Benzo(b)fluoranthene	24
Benzo(k)fluoranthene	14 U
Carbazole	14 U
Dibenz(a,h)anthracene	14 U
Dibenzofuran	14 U
Di-n-butylphthalate (DBP)	0.72 U
Fluoranthene	98 (U)
Fluorene	15 (U)
Indeno(1,2,3-cd)pyrene	18
Naphthalene	14 U
Phenanthrene	94 (U)
Phenol	0.72 U

MW19-31	9/21/2011 0-2 ft BGS	9/21/2011 8-10 ft BGS	9/21/2011 10-12 ft BGS
SVOCs			
2,4-Dimethylphenol	0.28 U	0.28 U	0.29 U
2-Methylnaphthalene	0.28 U	0.28 U	0.29 U
3,4-Methylphenol	0.28 U	0.28 U	0.29 U
Acenaphthene	0.28 U	0.28 U	0.29 U
Acenaphthylene	0.28 U	0.28 U	0.29 U
Anthracene	0.28 U	0.28 U	0.29 U
Benzo(a)anthracene	0.28 U	0.28 U	0.29 U
Benzo(a)pyrene	0.28 U	0.28 U	0.29 U
Benzo(b)fluoranthene	0.28 U	0.28 U	0.29 U
Benzo(k)fluoranthene	0.28 U	0.28 U	0.29 U
Carbazole	0.28 U	0.28 U	0.29 U
Dibenz(a,h)anthracene	0.28 U	0.28 U	0.29 U
Dibenzofuran	0.28 U	0.28 U	0.29 U
Di-n-butylphthalate (DBP)	0.28 U	0.28 U	0.29 U
Fluoranthene	0.28 U	0.28 U	0.29 U
Fluorene	0.28 U	0.28 U	0.29 U
Indeno(1,2,3-cd)pyrene	0.28 U	0.28 U	0.29 U
Naphthalene	0.28 U	0.28 U	0.29 U
Phenanthrene	0.28 U	0.28 U	0.29 U
Phenol	0.28 U	0.28 U	0.29 U

MW19-30	9/21/2011 0-2 ft BGS	9/21/2011 8-10 ft BGS	9/21/2011 10-12 ft BGS
SVOCs			
2,4-Dimethylphenol	0.27 U	0.29 U	0.29 U
2-Methylnaphthalene	0.27 U	0.29 U	0.29 U
3,4-Methylphenol	0.27 U	0.29 U	0.29 U
Acenaphthene	0.27 U	0.29 U	0.29 U
Acenaphthylene	0.27 U	0.29 U	0.29 U
Anthracene	0.27 U	0.29 U	0.29 U
Benzo(a)anthracene	0.27 U	0.29 U	0.29 U
Benzo(a)pyrene	0.27 U	0.29 U	0.29 U
Benzo(b)fluoranthene	0.27 U	0.29 U	0.29 U
Benzo(k)fluoranthene	0.27 U	0.29 U	0.29 U
Carbazole	0.27 U	0.29 U	0.29 U
Dibenz(a,h)anthracene	0.27 U	0.29 U	0.29 U
Dibenzofuran	0.27 U	0.29 U	0.29 U
Di-n-butylphthalate (DBP)	0.27 U	0.29 U	0.29 U
Fluoranthene	0.0074 J	0.29 U	0.29 U
Fluorene	0.27 U	0.29 U	0.29 U
Indeno(1,2,3-cd)pyrene	0.27 U	0.29 U	0.29 U
Naphthalene	0.27 U	0.29 U	0.29 U
Phenanthrene	0.27 U	0.29 U	0.29 U
Phenol	0.27 U	0.29 U	0.29 U

MW19-29	9/21/2011 0-2 ft BGS	9/21/2011 8-10 ft BGS	9/21/2011 10-12 ft BGS
SVOCs			
2,4-Dimethylphenol	0.3 U	0.28 U	0.29 U
2-Methylnaphthalene	0.0075 J/0.015 J	0.28 U	0.29 U
3,4-Methylphenol	0.3 U	0.28 U	0.29 U
Acenaphthene	0.3 U	0.28 U	0.29 U
Acenaphthylene	0.0039 J/0.3 J	0.28 U	0.29 U
Anthracene	0.0061 J/0.3 J	0.28 U	0.29 U
Benzo(a)anthracene	0.023 J/0.053 J	0.28 U	0.29 U
Benzo(a)pyrene	0.028 J/0.055 J	0.28 U	0.29 U
Benzo(b)fluoranthene	0.039 J/0.072 J	0.28 U	0.29 U
Benzo(k)fluoranthene	0.02 J/0.036 J	0.28 U	0.29 U
Carbazole	0.3 U	0.28 U	0.29 U
Dibenz(a,h)anthracene	0.0095 J/0.012 J	0.28 U	0.29 U
Dibenzofuran	0.3 U	0.28 U	0.29 U
Di-n-butylphthalate (DBP)	0.3 U	0.28 U	0.017 J
Fluoranthene	0.036 J/0.1 J	0.28 U	0.29 U
Fluorene	0.3 U	0.28 U	0.29 U
Indeno(1,2,3-cd)pyrene	0.02 J/0.033 J	0.28 U	0.29 U
Naphthalene	0.3 U	0.28 U	0.29 U
Phenanthrene	0.016 J/0.027 J	0.28 U	0.015 J
Phenol	0.3 U	0.28 U	0.29 U

SG19-10	2/1/2012 3-5 ft BGS	2/1/2012 5-7 ft BGS
SVOCs		
2,4-Dimethylphenol	16 U	110 U
2-Methylnaphthalene	1 J	72 (U)
3,4-Methylphenol	16 U	110 U
Acenaphthene	16 U	110 U
Acenaphthylene	16 U	110 U
Anthracene	16 U	110 U
Benzo(a)anthracene	16 U	110 U
Benzo(a)pyrene	16 U	110 U
Benzo(b)fluoranthene	16 U	110 U
Benzo(k)fluoranthene	16 U	110 U
Carbazole	16 U	110 U
Dibenz(a,h)anthracene	16 U	110 U
Dibenzofuran	16 U	9.4 (U)
Di-n-butylphthalate (DBP)	10 J	1800 (D.E.H., J)
Fluoranthene	0.56 J	7.4 (U)
Fluorene	16 U	110 U
Indeno(1,2,3-cd)pyrene	16 U	110 U
Naphthalene	3.4 (U)	320 (E, J)
Phenanthrene	1.7 J	30 (U)
Phenol	16 U	250 (U)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: B. LANDALE	Reviewed By: A. BAINS	Date: SEPTEMBER 2012
Scale: AS SHOWN	Project No: 17303-T05	Report No: 023
		Drawing No: FIGURE C.5

SB24-01	6/3/2005 0-3 ft BGS	6/3/2005 3-6 ft BGS	6/3/2005 6-9 ft BGS	6/3/2005 9-11 ft BGS
SVOCs				
2,4-Dimethylphenol	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U
2-Methylnaphthalene	0.26 U	0.26 U	0.017 J	1/4
4-Methylphenol	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U
Acenaphthene	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U
Acenaphthylene	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U
Anthracene	0.018 J	0.022 J	0.071 J	0.044 J/0.17 J
Benzo(a)anthracene	0.048 J	0.068 J	0.17 J	0.073 J/0.16 J
Benzo(a)pyrene	0.052 J	0.069 J	0.15 J	0.097 J/0.13 J
Benzo(b)fluoranthene	0.062 J	0.083 J	0.18 J	0.11 J/0.18 J
Benzo(k)fluoranthene	0.028 J	0.045 J	0.07 J	0.05 J/1.8 U
Carbazole	0.26 U	0.26 U	0.048 J	0.036 J/1.8 U
Dibenz(a,h)anthracene	0.26 U	0.26 U	0.032 J	0.044 J/1.8 U
Dibenzofuran	0.26 U	0.26 U	0.022 J	0.034 J/0.21 J
Di-n-butylphthalate (DBP)	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U
Fluoranthene	0.12 J	0.16 J	0.44 J	0.28 J/0.79 J
Fluorene	0.014 J	0.26 U	0.052 J	0.076 J/0.33 J
Indeno(1,2,3-cd)pyrene	0.027 J	0.038 J	0.067 J	0.056 J/1.8 U
Naphthalene	0.26 U	0.26 U	0.04 J	2 (U) 9.3 (U)
Phenanthrene	0.091 J	0.088 J	0.34 J	0.21 J/1.1 J
Phenol	0.26 U	0.26 U	0.26 U	0.53 U/1.8 U

SB19-50	2/8/2012 0-2 ft BGS	2/8/2012 9-11 ft BGS
SVOCs		
2,4-Dimethylphenol	0.29 U	0.3 U
2-Methylnaphthalene	0.0081 J	0.02 J/0.022 J
3,4-Methylphenol	0.29 U	0.3 U
Acenaphthene	0.015 J	0.024 J/0.025 J
Acenaphthylene	0.0042 J	0.046 J/0.0069 J
Anthracene	0.041 J	0.045 J/0.049 J
Benzo(a)anthracene	0.32	0.15 J/0.18 J
Benzo(a)pyrene	0.34	0.14 J/0.19 J
Benzo(b)fluoranthene	0.48	0.2 J/0.25 J
Benzo(k)fluoranthene	0.19 J	0.09 J/0.11 J
Carbazole	0.29 U	0.3 U
Dibenz(a,h)anthracene	0.29 U	0.014 J/0.3 U
Dibenzofuran	0.005 J	0.018 J/0.019 J
Di-n-butylphthalate (DBP)	0.29 U	0.3 U
Fluoranthene	0.64	0.42/0.51
Fluorene	0.012 J	0.018 J/0.02 J
Indeno(1,2,3-cd)pyrene	0.22 J	0.085 J/0.11 J
Naphthalene	0.0063 J	0.015 J/0.016 J
Phenanthrene	0.2 J	0.27 J/0.29 J
Phenol	0.29 U	0.3 U

SB23-03	6/3/2005 0-3 ft BGS	6/3/2005 3-6 ft BGS	6/3/2005 6-9 ft BGS	6/3/2005 9-11 ft BGS
SVOCs				
2,4-Dimethylphenol	0.66 U	0.26 U	0.26 U	0.26 U
2-Methylnaphthalene	0.66 U	0.26 U	0.26 U	0.037 J/0.077 J
4-Methylphenol	0.66 U	0.26 U	0.26 U	0.26 U
Acenaphthene	0.2 J	0.26 U	0.26 U	0.017 J/0.26 U
Acenaphthylene	0.66 U	0.26 U	0.26 U	0.26 U/0.26 U
Anthracene	0.34 J	0.017 J	0.26 U	0.018 J/0.18 J
Benzo(a)anthracene	0.94 J	0.07 J	0.26 U	0.041 J/0.28
Benzo(a)pyrene	0.93 J	0.095 J	0.26 U	0.033 J/0.26
Benzo(b)fluoranthene	1.1 J	0.11 J	0.26 U	0.042 J/0.31
Benzo(k)fluoranthene	0.53 J	0.042 J	0.26 U	0.024 J/0.12 J
Carbazole	0.24 J	0.26 U	0.26 U	0.053 J/0.26 U
Dibenz(a,h)anthracene	0.14 J	0.029 J	0.26 U	0.046 J/0.26 U
Dibenzofuran	0.068 J	0.26 U	0.26 U	0.039 J/0.26 U
Di-n-butylphthalate (DBP)	0.66 U	0.26 U	0.26 U	0.26 U
Fluoranthene	3.2 J	0.14 J	0.26 U	0.14 J/0.92
Fluorene	0.15 J	0.26 U	0.26 U	0.08 J/0.26 U
Indeno(1,2,3-cd)pyrene	0.49 J	0.052 J	0.26 U	0.019 J/0.12 J
Naphthalene	0.66 U	0.26 U	0.26 U	0.022 J/0.046 J
Phenanthrene	2.2 J	0.054 J	0.26 U	0.077 J/0.79
Phenol	0.66 U	0.26 U	0.26 U	0.26 U

SB19-50	2/8/2012	2/8/2012
	0-2% BGS	9-11% BGS
Inorganics		
Antimony	0.69 J	0.22 J0.24
Arsenic	3.3	2.2/5
Barium	30	15/19
Cadmium	0.52	0.180 25
Chromium	31	10/11
Chromium III (trivalent)	29	108.9
Chromium VI (hexavalent)	2.5	0.94/1.3
Cobalt	3.3	2.1/22
Copper	8.3 J	4.9 J5.2 J
Lead	56	12
Manganese	30	160
Mercury	0.029 J	0.016 J0.033 J
Nickel	8.1	6.2/8.7
Selenium	0.30	0.20/0.22
Silver	0.037 J	0.072 J0.076 J
Thallium	0.10 J	0.072 J0.076 J
Zinc	55	20/21

TP19-02	6/3/2003
Inorganics	-
Aluminum	2970
Antimony	29.6 (E)
Arsenic	3.05 J
Barium	28.5 J
Cadmium	0.871 J
Chromium	35.4
Cobalt	2.3
Copper	11.5 J
Iron	8720
Lead	969 (D,E)
Magnesium	7780
Manganese	180
Mercury	0.11 U
Nickel	6.14
Selenium	0.22 U
Silver	0.55 UJ
Thallium	6.47 (E,I)
Zinc	72.9

SB23-03	6/3/2005 3-6% BGS	6/3/2005 3-6% BGS	6/3/2005 6-9% BGS	6/3/2005 9-11% BGS
Inorganic				
Antimony	1.9 J	0.028 J	R	0.036 J/0.083 J
Barium	28.2	9.6	17.9	13.0/9.9
Cadmium	0.39	0.034 J	0.080 U	0.025/0.050 BGS
Chromium	18.5	14.4	10.2	11.3/8.0
Copper	3.2	2.7	2.3	2.8/2.6
Co	8.2	5.8	8.2	6.2/7.7
Lead	12.7	7.7	5.8	5.4/6.5
Lead - coarse fraction	11.6	10.7	5.0	5.2/6.2
Lead - fine fraction	10.8	6.9	5.8	5.6/6.7
Manganese	190	63.7	139	104/135
Mercury	0.040 U	0.033 J	0.040 U	0.040 U
Nickel	7.8	5.7	8.0	6.0/8.7
Silver	0.16 U	0.094 J	0.11 J	0.10/0.16 U
Thallium	0.066 J	0.017 J	0.029 J	0.029/0.031 J
Thallium	0.066 J	0.035 J	0.061 J	0.054/0.060 J
Zinc	50.2 J	20.6	16.8	17.9/18.5

TP19-06	6/4/2003
Inorganics	-
Aluminum	5020
Antimony	32.6 (E)
Arsenic	4.56 J
Barium	223 J
Cadmium	6.9 J(E)
Chromium	56.1
Cobalt	7.94 (E,I)
Copper	12.1 J
Iron	10900
Lead	58.1
Magnesium	5730
Manganese	216
Mercury	0.11 U
Nickel	12
Selenium	1.04 J(I)
Silver	0.57 UJ
Thallium	9.18 (E,I)
Zinc	145

SEB2-04	6/3/2005	6/3/2005	6/3/2005	6/3/2005
	0-3 ft BGS	3-6 ft BGS	6-9 ft BGS	9-11 ft BGS
Inorganics				
Antimony	0.84 J	0.039 J	0.16 UJ	0.089 J
As	3.5	1.3	1.7	1.7
Barium	25.3	7.5	1.3	1.3
Cadmium	0.25	0.080 U	0.074 J	0.051 J
Chromium	10.4	2.4	2.18	2.19
Cobalt	1.9	2.9	1.7	2.2
Copper	5.2	6.2	3.1	3.4
Lead	81.5	5.1	13.1	5.0
Lead - coarse fraction	51.0	5.4	8.7	4.6
Lead - fine fraction	50.9	4.7	20.4	5.1
Manganese	211	86.9	118	140
Mercury	0.017 J	0.0093 J	0.0080 J	0.040 U
Molybdenum	5.1	0.6	3.6	5.3
Selenium	0.095 J	0.099 J	0.16 U	0.16 U
Silver	0.050 J	0.029 J	0.018 J	0.024 J
Thallium	0.055 J	0.054 J	0.025 J	0.042 J
Zinc	68.8	15.1	1.9	12.5

SB19-51	2/7/2012 3-6 ft BGS
Inorganics	
Chromium	27
Chromium III (trivalent)	27
Chromium VI (hexavalent)	0.71 J

MW19-33

MW-19-32	2/8/2012 0-2 BGS	2/8/2012 5-10 BGS
Inorganics		
Aluminum	NS	NS
Antimony	0.15 J	0.085 J
Arsenic	2.6	5.8
Barium	22	15
Bismuth	0.05	0.12
Chromium	9.2	6.9
Chromium III (trivalent)	7.9	6.4
Chromium VI (hexavalent)	1.3	0.51 J
Cobalt	20	13
Copper	7.6 J	3.0
Iron	NS	NS
Lead	7.6	4.6
Magnesium	NS	NS
Manganese	150	400
Mercury	0.034 J	0.042 U
Nickel	5.7	11
Selenium	0.31	0.28
Silver	0.016 J	0.087 U
Thallium	0.082 U	0.097 U
Zinc	36	33

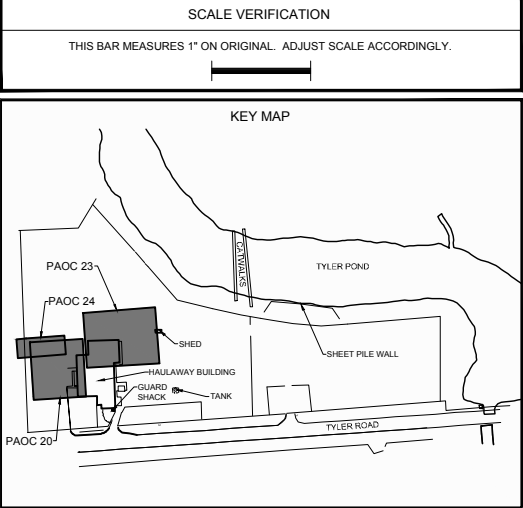
SB24-02	6/3/2005		6/3/2005		6/2/2005		6/3/2005	
	0.3 BT/BS	3.4 BT/BS	0.3 BT/BS	3.4 BT/BS	0.3 BT/BS	3.4 BT/BS	0.3 BT/BS	3.4 BT/BS
Inorganics								
Antimony	0.084 J	0.084 J	0.084 J	0.033 J	0.042 J			
Arsenic	2.5	2.2	1.4	1.4	2.4			
Barium	21.5	16.1	17.8	17.8	17.8			
Cadmium	0.11	0.12	0.045 J	J	0.11			
Chromium	8.7	7.2	6.7	8.1				
Cobalt	2.9	2.6	2.2	2.7				
Copper	9.1	7.7	5.3	5.9				
Lead - coarse fraction	21.8	7.3	13.7	12.2				
Lead - fine fraction	22.3	7.3	11.9	11.4				
Lead - trace fraction	19.6	8.9	14.7	13.6				
Manganese	15.1	15.2	14.2	12.9				
Mercury	0.040 U	0.040 U	0.0056 J	0.0087 J				
Nickel	7.0	7.4	5.7	7.0				
Selenium	0.096 J	0.16 U	0.08 J	0.10 J				
Silver	0.030 J	0.029 J	0.021 J	0.026 J				
Zinc	0.051 J	0.051 J	0.040 J	0.040 J				
Zinc	25.4	17.2	14.5	17.1				

MW19-31	9/21/2011 6-21-18	9/21/2011 8-10-18	9/21/2011 10-12-18
Inorganics	NS	NS	NS
Aluminum			
Antimony	0.051 J	0.035 J	0.053 J
Arsenic	3.0	2.2	2.4
Barium	11	8.2	5.9
Cadmium	0.074 J	0.053 J	0.042 J
Chromium	4.8	4.3	5.0
Copper	2.4	2.0	2.2
Copper	6.1	6.1	5.6
Lead	3.4	2.6	2.7
Manganese	150	150	250
Mercury	0.041 U	0.036 U	0.034 U
Nickel	5.5	6.0	5.5
Selenium	0.21	0.17	0.23
Silver	0.078 U	0.079 U	0.079 U
Thallium	0.086	0.080	0.079 U
Zinc	23	13	14

MW/19-30	9/21/2011 0-2 ft BGS	9/21/2011 8-10 ft BGS	9/21/2011 10-12 ft BGS
Inorganics	NS	NS	NS
Aluminum			
Antimony	0.087 J	0.065 J	0.097 J
Arsenic	2.7	3.4	8.2 (E)
Barium	7.4	10	8.2
Boron	0.11	0.063	0.065 J
Chromium	3.9	4.8	6.5
Cobalt	2.1	2.5	2.8
Copper	5.5	8.3	8.5
Lead	5.3	2.8	3.8
Manganese	140	190	250
Mercury	0.039 U	0.041 U	0.018 J
Nickel	7.4	7.7	8.5
Silver	0.21	0.25	0.24
Selenium	0.078 U	0.086 U	0.082
Thallium	0.094	0.17	0.11
Zinc	23	16	19

MW19-29	9/21/2011 6-2 E BGS	9/21/2011 8-10 E BGS	9/21/2011 10-12 E BGS
Inorganics	NS	NS	NS
Aluminum			
Antimony	0.16 10.91 J1	0.060 J1	0.061 J1
Arsenic	3.6/4.8	3.9	3.1
Barium	21/25	12	7.9
Calcium	0.130 1.4	0.066 J1	0.062 J1
Chromium			
Cobalt	3.1/3.4	3.0	7.8
Copper	18/7.6	8.6	8.5
Lead	6.0/7.5	3.3	3.1
Manganese		250	270/340
Mercury	0.019 10.021 J1	0.027 U	0.043 U
Nickel	8.1/9.3	9.2	8.4
Vanadium	0.090 0.090	0.24	0.33
Silver	0.017 10.076 U	0.077 U	0.073 U
Thallium	0.130 23	0.13	0.14
Zinc	20/24	20	14

SG19-10	2/1/2012	2/1/2012
	3-5 ft BGS	5-7 ft BGS
Inorganics		
Antimony	\$100 (D.E.)	1500 (D.E.)
Arsenic	11 (E.J)	13 (E.J)
Barium	4400 (E.J)	1900 (E.J)
Cadmium	5.0	17 (E.J)
Chromium	2600	45000
Chromium III (trivalent)	2500	2200
Chromium VI (hexavalent)	100 (E.J)	4300 (D.E.)
Cobalt	9.2 (E.J)	4200 (E.J)
Copper	44	63
Lead	450/NS	9000 (D.E.)
Lead - coarse fraction	390	NS
Lead - fine fraction	540	NS
Lead - total (calculated by fine/coarse fraction)	-	NS
Manganese	180	480 (E.J)
Mercury	0.12	0.043 U
Nickel	4.6	19 U
Selenium	17 U	19 U
Silver	3.8 J/J	9.5 U
Thallium	8.4 U	9.5 U
Zinc	4500 (U)	76000 (E.J)



SOIL DATA SUMMARY - INORGANICS PAOCS 20/23/24			
RCRA FIELD INVESTIGATION REPORT			
FORMER GENERAL MOTORS COMPANY VEHICLE OPERATIONS PROPERTY, YPSILANTI, MICHIGAN			
 CONESTOGA-ROVERS & ASSOCIATES			
Source Reference:			
Project Manager: B. LANDALE		Reviewed By: A. BAINS	
		Date: SEPTEMBER 2012	
Scale: AS SHOWN	Project N°: 17303-T05	Report N°: 023	Drawing N°: FIGURE C.6

MW19-36	2/9/2012 0.2 ft BGS	2/9/2012 3.5-4.75 ft BGS	2/9/2012 7.5-9.5 ft BGS
VOCs			
1,1,2-Trichloroethane	0.06 U	0.11 U	0.048 U
1,1-Dichloroethane	0.06 U	0.11 U	0.048 U
1,2,4-Trichlorobenzene	0.3 U	0.53 U	0.24 U
1,2-Dibromo-3-chloropropane (DBCP)	0.12 U	0.21 U	0.097 U
1,2-Dichlorobenzene	0.06 U	0.11 U	0.048 U
Benzene	0.06 U	0.11 U	0.048 U
Chlorobenzene	0.06 U	0.11 U	0.048 U
cis-1,2-Dichloroethane	0.06 U	0.11 U	0.048 U
Ethylbenzene	0.06 U	0.11 U	0.048 U
Isopropyl benzene	0.3 U	0.53 U	0.24 U
Methylene chloride	0.3 U	0.53 U	0.24 U
Styrene	0.06 U	0.11 U	0.048 U
Toluene	0.12 U	0.21 U	0.097 U
trans-1,2-Dichloroethane	0.06 U	0.11 U	0.048 U
Trichloroethene	0.06 U	0.11 U	0.048 U
Vinyl chloride	0.048 U	0.084 U	0.039 U
Xylenes (total)	0.18 U	0.32 U	0.14 U
PCBs			
Aroclor-1254 (PCB-1254)	0.4 U	0.51 U	0.29 U
Aroclor-1260 (PCB-1260)	0.71	0.77	0.29 U
Total PCBs	0.71	0.77	0.29 U

MW19-35	2/9/2012 0.2 ft BGS	2/9/2012 7.5-9.5 ft BGS
VOCs		
1,1,2-Trichloroethane	0.044 U	0.074 U
1,1-Dichloroethane	0.044 U	0.074 U
1,2,4-Trichlorobenzene	0.22 U	0.37 U
1,2-Dibromo-3-chloropropane (DBCP)	0.22 U	0.37 U
1,2-Dichlorobenzene	0.088 U	0.15 U
1,2-Dichloroethane	0.044 U	0.074 U
Benzene	0.044 U	0.074 U
Chlorobenzene	0.044 U	0.074 U
cis-1,2-Dichloroethane	0.044 U	0.074 U
Ethylbenzene	0.044 U	0.074 U
Isopropyl benzene	0.22 U	0.37 U
Methylene chloride	0.22 U	0.37 U
Styrene	0.044 U	0.074 U
Toluene	0.088 U	0.15 U
trans-1,2-Dichloroethane	0.044 U	0.074 U
Trichloroethene	0.044 U	0.074 U
Vinyl chloride	0.035 U	0.069 U
Xylenes (total)	0.13 U	0.22 U
PCBs		
Aroclor-1254 (PCB-1254)	0.19 J	0.36 U
Aroclor-1260 (PCB-1260)	0.29 U	0.062 J
Total PCBs	0.19	0.062 J

MW19-37	2/9/2012 0.2 ft BGS	2/9/2012 2.2-2.5 ft BGS	2/9/2012 7.5-9.5 ft BGS
VOCs			
1,1,2-Trichloroethane	0.043 U	0.063 U	0.044 U
1,1-Dichloroethane	0.043 U	0.063 U	0.044 U
1,2,4-Trichlorobenzene	0.22 U	0.32 U	0.22 U
1,2-Dibromo-3-chloropropane (DBCP)	0.22 U	0.32 U	0.22 U
1,2-Dichlorobenzene	0.087 U	0.13 U	0.089 U
1,2-Dichloroethane	0.043 U	0.063 U	0.044 U
Benzene	0.043 U	0.063 U	0.044 U
Chlorobenzene	0.043 U	0.063 U	0.044 U
cis-1,2-Dichloroethane	0.043 U	0.063 U	0.044 U
Ethylbenzene	0.043 U	0.063 U	0.044 U
Isopropyl benzene	0.22 U	0.32 U	0.22 U
Methylene chloride	0.22 U	0.32 U	0.22 U
Styrene	0.043 U	0.063 U	0.044 U
Toluene	0.087 U	0.13 U	0.089 U
trans-1,2-Dichloroethane	0.043 U	0.063 U	0.044 U
Trichloroethene	0.043 U	0.063 U	0.044 U
Vinyl chloride	0.035 U	0.069 U	0.039 U
Xylenes (total)	0.13 U	0.19 U	0.13 U
PCBs			
Aroclor-1254 (PCB-1254)	0.29 U	0.29 U	0.29 U
Aroclor-1260 (PCB-1260)	0.053 J	0.046 J	0.29 U
Total PCBs	0.053	0.046	0.29 U

MW19-34	2/9/2012 0.2 ft BGS	2/9/2012 7.5-9.5 ft BGS
VOCs		
1,1,2-Trichloroethane	0.043 U	0.047 U
1,1-Dichloroethane	0.043 U	0.047 U
1,2,4-Trichlorobenzene	0.04 U	0.21 U
1,2-Dibromo-3-chloropropane (DBCP)	0.21 U	0.21 U
1,2-Dichlorobenzene	0.085 U	0.089 U
1,2-Dichloroethane	0.043 U	0.047 U
Benzene	0.043 U	0.047 U
Chlorobenzene	0.043 U	0.047 U
cis-1,2-Dichloroethane	0.043 U	0.047 U
Ethylbenzene	0.043 U	0.047 U
Isopropyl benzene	0.21 U	0.22 U
Methylene chloride	0.21 U	0.22 U
Styrene	0.043 U	0.047 U
Toluene	0.085 U	0.089 U
trans-1,2-Dichloroethane	0.043 U	0.047 U
Trichloroethene	0.043 U	0.047 U
Vinyl chloride	0.035 U	0.069 U
Xylenes (total)	0.13 U	0.14 U
PCBs		
Aroclor-1254 (PCB-1254)	0.29 U	0.31 U
Aroclor-1260 (PCB-1260)	0.061 J	0.31 U
Total PCBs	0.061/0.1	0.31 U

TP-A6S2	6/19/2005 9.9 ft BGS
VOCs	
1,1,2-Trichloroethane	0.04 U
1,1-Dichloroethane	0.04 U
1,2,4-Trichlorobenzene	0.2 U
1,2-Dibromo-3-chloropropane (DBCP)	0.2 U
1,2-Dichlorobenzene	0.08 U
1,2-Dichloroethane	0.04 U
Benzene	0.04 U
Chlorobenzene	0.04 U
cis-1,2-Dichloroethane	0.04 U
Ethylbenzene	0.04 U
Isopropyl benzene	0.2 U
Methylene chloride	0.2 U
Styrene	0.04 U
Toluene	0.08 U
trans-1,2-Dichloroethane	0.04 U
Trichloroethene	0.25 U
Vinyl chloride	0.016 J
Xylenes (total)	0.02 J
PCBs	
Aroclor-1254 (PCB-1254)	0.26 U
Aroclor-1260 (PCB-1260)	0.26 U
Total PCBs	0.26 U

MW19-39	2/9/2012 0.2 ft BGS	2/9/2012 8-10 ft BGS
VOCs		
1,1,2-Trichloroethane	0.054 U	0.042 U
1,1-Dichloroethane	0.054 U	0.042 U
1,2,4-Trichlorobenzene	0.049 J	0.21 U
1,2-Dibromo-3-chloropropane (DBCP)	0.27 U	0.21 U
1,2-Dichlorobenzene	0.11 U	0.083 U
1,2-Dichloroethane	0.054 U	0.042 U
Benzene	0.054 U	0.042 U
Chlorobenzene	0.054 U	0.042 U
cis-1,2-Dichloroethane	0.054 U	0.042 U
Ethylbenzene	0.02 J	0.042 U
Isopropyl benzene	0.27 U	0.21 U
Methylene chloride	0.27 U	0.21 U
Styrene	0.054 U	0.042 U
Toluene	0.11 U	0.083 U
trans-1,2-Dichloroethane	0.054 U	0.042 U
Trichloroethene	0.22 [E]	0.27 [E]
Vinyl chloride	0.043 U	0.033 U
Xylenes (total)	0.094 J	0.12 U
PCBs		
Aroclor-1254 (PCB-1254)	0.39 U	0.3 U
Aroclor-1260 (PCB-1260)	1.5	0.030 J
Total PCBs	1.5	0.030 J

MW19-12	11/19/2003 0.2 ft BGS	11/19/2003 11.5-13.5 ft BGS
VOCs		
1,1,2-Trichloroethane	0.047 U	0.057 U
1,1-Dichloroethane	0.047 U	0.057 U
1,2,4-Trichlorobenzene	0.23 U	0.58
1,2-Dibromo-3-chloropropane (DBCP)	NS	NS
1,2-Dichlorobenzene	0.23 U	0.28 U
1,2-Dichloroethane	0.094 U	0.11 U
Benzene	0.047 U	0.057 U
Chlorobenzene	0.047 U	0.057 U
cis-1,2-Dichloroethane	0.047 U	0.057 U
Ethylbenzene	0.047 U	0.057 U
Isopropyl benzene	0.23 U	0.028 J
Methylene chloride	0.23 U	0.028 J
Styrene	0.23 U	0.28 U
Toluene	0.23 U	0.087 U
trans-1,2-Dichloroethane	0.094 U	0.11 U
Trichloroethene	0.047 U	0.057 U
Vinyl chloride	0.31 [E]	0.47 [E]
Xylenes (total)	0.094 U	0.15 [E]
PCBs		
Aroclor-1254 (PCB-1254)	NS	NS
Aroclor-1260 (PCB-1260)	NS	NS
Total PCBs	NS	NS

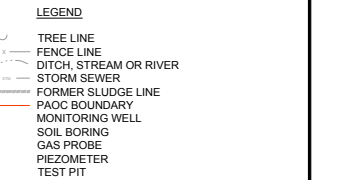
TP-4	6/8/2005 4-4 ft BGS
VOCs	
1,1,2-Trichloroethane	1.2 U
1,1-Dichloroethane	1.2 U
1,2,4-Trichlorobenzene	6.2 U
1,2-Dibromo-3-chloropropane (DBCP)	0.79 [E]
1,2-Dichlorobenzene	0.79 [E]
1,2-Dichloroethane	1.2 U
Benzene	6.2 [E]
Chlorobenzene	1.2 U
cis-1,2-Dichloroethane	1.2 U
Ethylbenzene	0.11 U
Isopropyl benzene	0.53 U
Methylene chloride	0.53 U
Styrene	1.2 U
Toluene	1.5 J
trans-1,2-Dichloroethane	1.2 U
Trichloroethene	1.2 U
Vinyl chloride	0.21 U
Xylenes (total)	1.1 U
PCBs	
Aroclor-1254 (PCB-1254)	0.37 U
Aroclor-1260 (PCB-1260)	0.38
Total PCBs	0.38

MW19-14	11/12/2003 0.2 ft BGS	11/12/2003 11-13 ft BGS
VOCs		
1,1,2-Trichloroethane	0.11 U	0.21 U
1,1-Dichloroethane	0.11 U	0.21 U
1,2,4-Trichlorobenzene	0.53 U	1.1 U
1,2-Dibromo-3-chloropropane (DBCP)	0.53 U	1.1 U
1,2-Dichlorobenzene	0.21 U	0.42 U
1,2-Dichloroethane	0.11 U	0.21 U
Benzene	0.11 U	0.21 U
Chlorobenzene	0.11 U	0.21 U
cis-1,2-Dichloroethane	0.11 U	0.21 U
Ethylbenzene	0.11 U	0.21 U
Isopropyl benzene	0.53 U	1.1 U
Methylene chloride	0.53 U	1.1 U
Styrene	0.11 U	0.21 U
Toluene	0.21 U	0.42 U
trans-1,2-Dichloroethane	0.11 U	0.21 U
Trichloroethene	0.06 U	0.13 U
Vinyl chloride	0.21 U	0.42 U
Xylenes (total)	1.1 U	2.1 U
PCBs		
Aroclor-1254 (PCB-1254)	0.37 U	0.38 U
Aroclor-1260 (PCB-1260)	0.38	0.42 U
Total PCBs	0.38	0.42 U

SB19-05	11/13/2003 6.8 ft BGS
VOCs	
1,1,2-Trichloroethane	0.066 U
1,1-Dichloroethane	0.066 U
1,2,4-Trichlorobenzene	0.33 U
1,2-Dibromo-3-chloropropane (DBCP)	0.33 U
1,2-Dichlorobenzene	0.13 U
1,2-Dichloroethane	0.066 U
Benzene	0.066 U
Chlorobenzene	0.066 U
cis-1,2-Dichloroethane	0.066 U
Ethylbenzene	0.17 J
Isopropyl benzene	0.079 J
Methylene chloride	0.33 U
Styrene	0.066 U
Toluene	0.022 J
trans-1,2-Dichloroethane	0.066 U
Trichloroethene	0.066 U
Vinyl chloride	0.13 U
Xylenes (total)	0.64 J
PCBs	
Aroclor-1254 (PCB-1254)	0.42 U
Aroclor-1260 (PCB-1260)	0.42 U
Total PCBs	2.1

TP-L	6/8/2005 3-3 ft BGS
VOCs	
1,1,2-Trichloroethane	0.04 U
1,1-Dichloroethane	0.04 U
1,2,4-Trichlorobenzene	0.2 U
1,2-Dibromo-3-chloropropane (DBCP)	0.2 U
1,2-Dichlorobenzene	0.082 U
1,2-Dichloroethane	0.041 U
Benzene	0.041 U
Chlorobenzene	0.041 U
cis-1,2-Dichloroethane	0.041 U
Ethylbenzene	0.041 U
Isopropyl benzene	0.2 U
Methylene chloride	0.2 U
Styrene	0.041 U
Toluene	0.082 U
trans-1,2-Dichloroethane	0.041 U
Trichloroethene	0.041 U
Vinyl chloride	0.02 J
Xylenes (total)	0.41 U
PCBs	
Aroclor-1254 (PCB-1254)	0.36 U
Aroclor-1260 (PCB-1260)	0.41 U
Total PCBs	0.49 U

SB22-02	5/18/2004 8-10 ft BGS
VOCs	
1,1,2-Trichloroethane	0.065 U
1,1-Dichloroethane	0.065 U
1,2,4-Trichlorobenzene	0.33 U
1,2-Dibromo-3-chloropropane (DBCP)	0.33 U
1,2-Dichlorobenzene	0.13 U
1,2-Dichloroethane	0.065 U
Benzene	0.065 U
Chlorobenzene	0.065 U
cis-1,2-Dichloroethane	0.065 U
Ethylbenzene	0.065 U
Isopropyl benzene	0.16 J
Methylene chloride	0.33 U
Styrene	0.065 U
Toluene	0.026 J
trans-1,2-Dichloroethane	0.065 U
Trichloroethene	0.065 U
Vinyl chloride	0.13 U
Xylenes (total)	0.31 J
PCBs	
Aroclor-1254 (PCB-1254)	2.1 U
Aroclor-1260 (PCB-1260)	0.6 J
Total PCBs	2.2 J



NOTES

DATA PRESENTED IN THE DATABASES ARE ONLY FOR THE CONSTITUENTS OF CONCERN (COC) AS DEFINED IN THE REPORT TEXT. IF A COC WAS NEVER SAMPLED AT A LOCATION, THAT COC IS NOT SHOWN IN THE DATABASE AT THAT LOCATION.

ALL CONSTITUENTS OF CONCERN CONCENTRATIONS IN mg/kg.

NS - NOT SAMPLED

U - THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT

J - THE ASSOCIATED VALUE IS QUALIFIED AS AN ESTIMATED QUANTITY

UJ - THE ANALYTE WAS REPORTED OR QUALIFIED AS NOT DETECTED HOWEVER THE SAMPLE REPORT LIMIT IS QUALIFIED AS AN ESTIMATED VALUE AND MAY BE INACCURATE OR IMPRECISE

R - THE DATA IS QUALIFIED AS UNUSABLE (NOTE: ANALYTE MAY OR MAY NOT BE PRESENT)

SOIL CRITERIA (NON-RESIDENTIAL)

A - FINITE VISC FOR 2 METER SOURCE THICKNESS

B - FINITE VISC FOR 5 METER SOURCE THICKNESS

C - INFINITE SOURCE VOLATILE SOIL INHALATION CRITERIA (VISC) & RBLS

D - DIRECT CONTACT CRITERIA & RBLS

E - NON RESIDENTIAL DRINKING WATER PROTECTION CRITERIA & RBLS

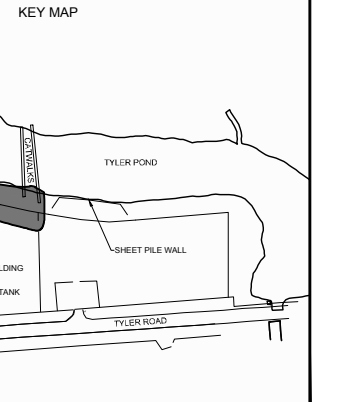
F - SOIL VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA & RBLS

G - PARTICULATE SOIL INHALATION CRITERIA & RBLS

H - GROUNDWATER SURFACE WATER INTERFACE PROTECTION CRITERIA & RBLS

J - SOIL SATURATION CONCENTRATION SCREENING LEVELS

LOCATION	DATE	DEPTH
SB2-34	12/1/1996	2.2-2.5 ft BGS
PARAMETER	RESULT	EXCEEDANCE
VOCs	NS	
1,1,2-Trichloroethane	NS	
1,1-Dichloroethane	NS	
1,2,4-Trichlorobenzene	NS	
1,2-Dibromo-3-chloropropane (DBCP)	NS	
1,2-Dichlorobenzene	NS	
1,2-Dichloroethane	NS	
Benzene	NS	
Chlorobenzene	NS	
cis-1,2-Dichloroethane	NS	
Ethylbenzene	NS	
Isopropyl benzene	NS	
Methylene chloride	NS	
Styrene	NS	
Toluene	NS	
trans-1,2-Dichloroethane	NS	
Trichloroethene	NS	
Vinyl chloride	NS	
Xylenes (total)	NS	
Total PCBs	NS	



SOIL DATA SUMMARY - VOCs AND PCBs
PAOC 29

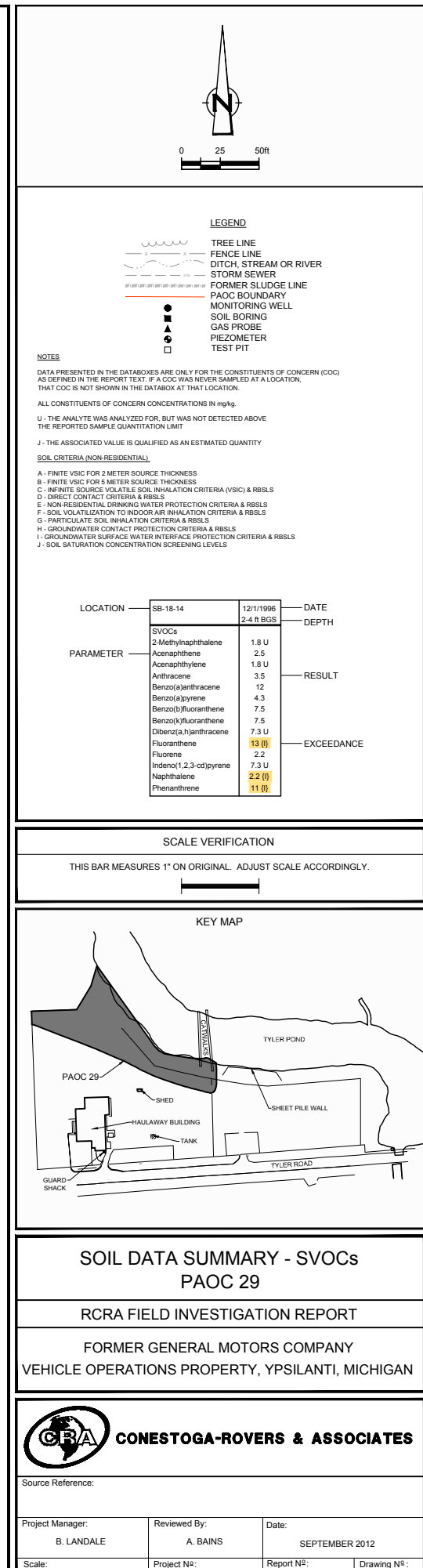
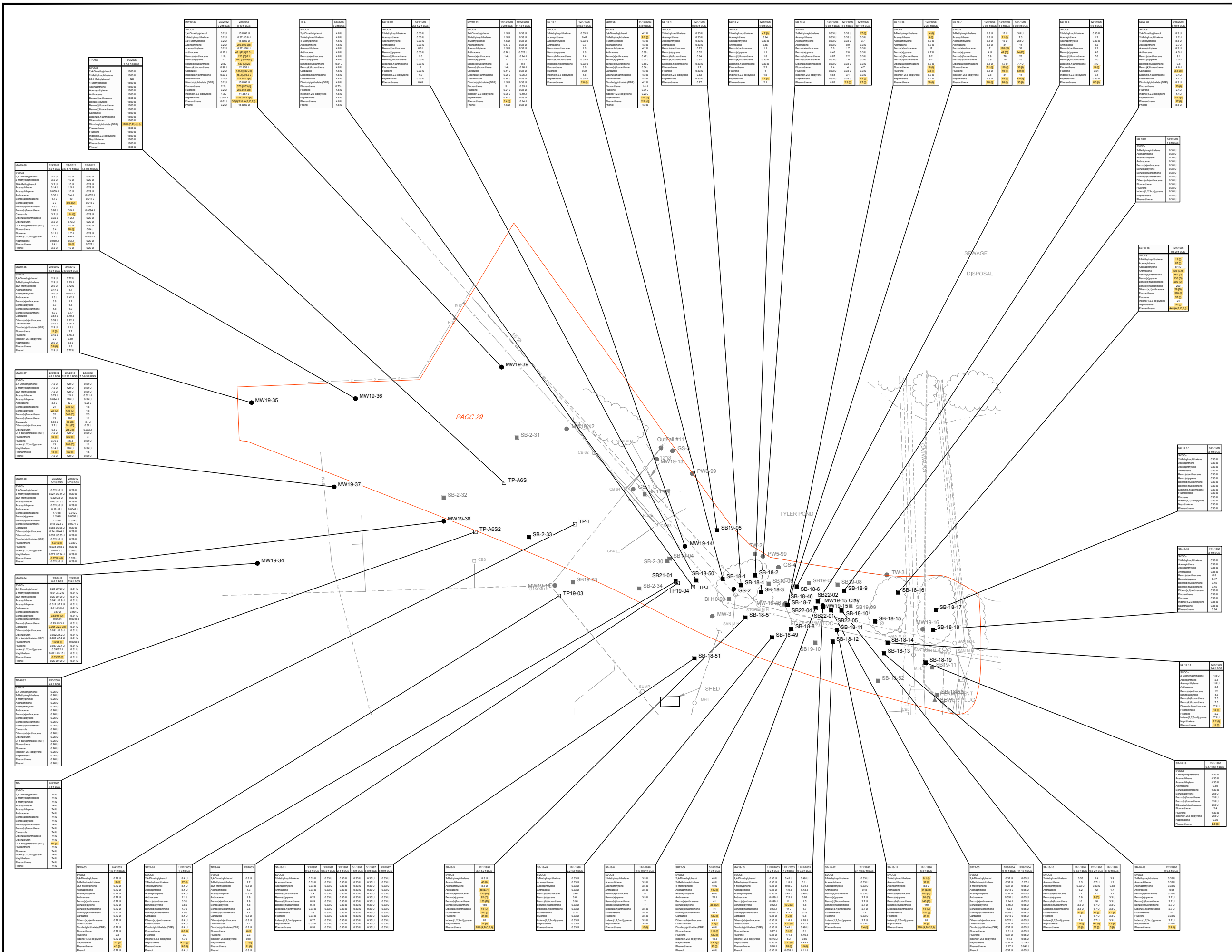
RCRA FIELD INVESTIGATION REPORT

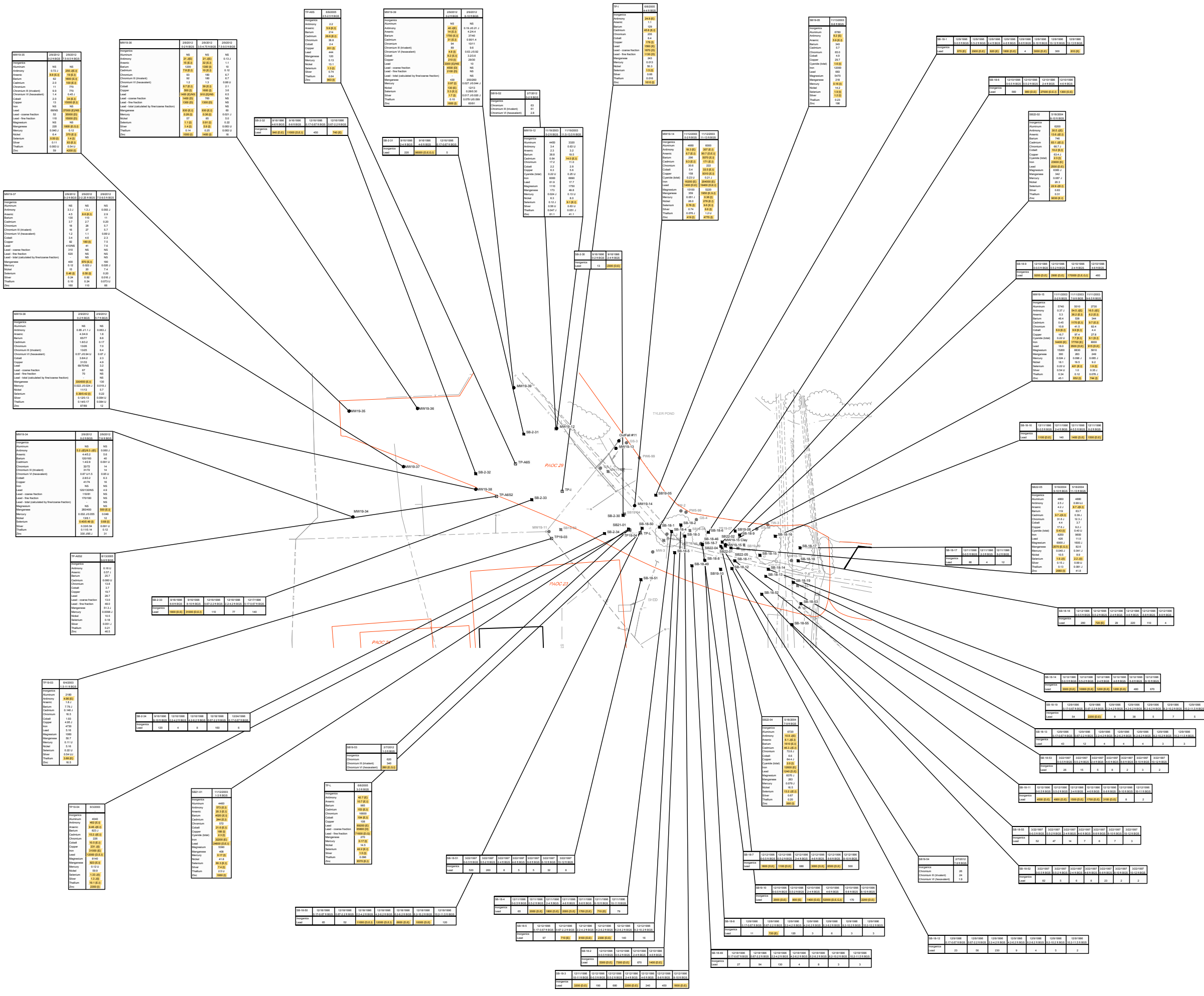
FORMER GENERAL MOTORS COMPANY
VEHICLE OPERATIONS PROPERTY, YPSILANTI, MICHIGAN



Source Reference:

Reviewed By: A. BAINS	Date: SEPTEMBER 2012	
Nº: 7303-T05	Report Nº: 023	Drawing Nº: FIGURE C.7





LEGEND

- TREE LINE
- FENCE LINE
- DITCH, STREAM OR RIVER
- STORM SEWER
- FORMER SLUDGE LINE
- PAOC BOUNDARY
- MONITORING WELL
- SOIL BORING
- GAS PROBE
- PIEZOMETER
- TEST PIT

NOTES

DATA PRESENTED IN THE DATABASES ARE ONLY FOR THE CONSTITUENTS OF CONCERN (COC) AS DEFINED IN THE REPORT TEXT. IF A COC WAS NEVER SAMPLED AT A LOCATION, THAT COC IS NOT SHOWN IN THE DATABASE AT THAT LOCATION.

ALL CONSTITUENTS OF CONCERN CONCENTRATIONS IN mg/kg

U - THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTIFICATION LIMIT

J - THE ASSOCIATED VALUE IS QUALIFIED AS AN ESTIMATED QUANTITY

UJ - THE ANALYTE WAS REPORTED OR QUALIFIED AS NOT DETECTED HOWEVER THE SAMPLE REPORT LIMIT IS QUALIFIED AS AN ESTIMATED VALUE AND MAY BE INACCURATE OR IMPRECISE

SOIL CRITERIA (NON-RESIDENTIAL)

A - FINITE VSIC FOR 2 METER SOURCE THICKNESS
B - FINITE VSIC FOR 4 METER SOURCE THICKNESS
C - INFINITE SOURCE VOLATILE SOIL INHALATION CRITERIA (VSIC) & RBLS
D - DIRECT CONTACT CRITERIA & RBLS
E - NON-RESIDENTIAL DRINKING WATER PROTECTION CRITERIA & RBLS
F - SOIL VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA & RBLS
G - PARTICULATE SOIL INHALATION CRITERIA & RBLS
H - GROUNDWATER CONTACT PROTECTION CRITERIA & RBLS
I - GROUNDWATER SURFACE WATER INTERFACE PROTECTION CRITERIA & RBLS
J - SOIL SATURATION CONCENTRATION SCREENING LEVELS

LOCATION	SB19-05	11/13/2003	DATE
PARAMETER		DEPTH	
Arsenic	6760 (E)		RESULT
Antimony	8.2 (E)		
Barium	343		
Cadmium	8.7		
Chromium	8559 (E)		
Cobalt	4.9 (E)		
Copper	29.7		
Cyanide (total)	9.6 (U)		
Lead	12000 (E)		EXCEEDANCE
Manganese	683		
Mercury	5470		
Nickel	219 (E)		
Selenium	14.2		
Silver	1.9 (U)		
Thallium	1.2 (U)		
Zinc	196		

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

KEY MAP

SOIL DATA SUMMARY - INORGANICS
PAOC 29

RCRA FIELD INVESTIGATION REPORT

FORMER GENERAL MOTORS COMPANY
VEHICLE OPERATIONS PROPERTY, YPSILANTI, MICHIGAN

Source Reference:

Project Manager:	Reviewed By:	Date:
B. LANDALE	A. BAINS	SEPTEMBER 2012
Scale:	Project N°:	Report N°:
AS SHOWN	17303-T05	023
		Drawing N°:
		FIGURE C.9

17303-T05(023)GN-W1007 DEC 28/2012

MW19-12	1/28/2004	3/9/2006	6/30/2006	10/3/2006	12/5/2006	3/7/2007	6/6/2007	9/6/2007	12/6/2007	3/27/2008	6/19/2008	9/24/2008	2/14/2012
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U	NS	NS	0.29 [E,H]
Aluminum	NS	0.00039 J/0.0006 J	0.002 U	0.00079 J	0.00041 J	0.0001 J	0.000084 J	0.002 U	0.00035 J	0.002 U	0.002 U	0.002 U	0.0028
Antimony	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.00049 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U
Cadmium	0.0050 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	NS	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00068 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (total)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	NS	0.828 [E,H] 0.989 [E,H]	0.581 [E,H] 0.634 [E,H]	0.776 [E,H]	0.733 [E,H]	0.885 [E,H]	0.769 [E,H]	0.599 [E,H]	0.55 [E,H]	0.619 [E,H]	0.475 [E,H]	0.514 [E,H]	0.34 [E,H]
Mercury	NS	0.0002 U	0.0001 J(D) 0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0001 J(D)	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0063 J
Selenium	0.0020 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.0011 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.005 U
Silver	NS	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.00089 J

GS-3	3/10/2006	6/27/2006	10/3/2006	12/5/2006	3/7/2007	6/6/2007	9/7/2007	12/7/2007	3/27/2008	9/25/2008	3/27/2009
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	0.445 [E,H]	NS	0.266 [E,H]
Aluminum	0.0013 J	0.00026 J	0.00063 J	0.00039 J	0.00027 J	0.00024 J	0.0002 U	0.00044 J	0.00029 J	0.00041 J	NS
Arsenic	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0056
Cadmium	0.001 U	0.001 U	0.001 U	0.001 U	0.00028 J	0.00013 J	0.0005 U	0.0005 U	0.0005 U	0.00027 J	NS
Chromium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.006	NS
Copper	0.0066	0.002 U	0.0032 U	0.003 U	0.0025 U	0.0026	0.002 U	0.0025	0.0014 J	0.0089	NS
Lead	0.0019 J	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.0157 [E,H]	NS
Manganese	0.0781 [E,H]	0.307 [E,H]	0.224 [E,H]	0.515 [E,H]	0.401 [E,H]	0.301 [E,H]	0.26 [E,H]	0.34 [E,H]	0.166 [E,H]	0.292 [E,H]	NS
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	NS
Nickel	0.0052 J	0.0048 J	0.0192 J	0.0086 J	0.02 U	0.006 J	0.0035 J	0.0065 J	0.0051 J	0.01 J	NS
Selenium	0.0042 J	0.005 U	0.005 U	0.00068 J	0.00098 J	0.002 U	0.0045	0.0043	0.002 U	0.002 U	NS
Silver	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00095 J	NS
Vanadium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.0063 [H]	NS

MW19-14	1/29/2004	5/28/2004
Inorganics	NS	-
Aluminum	NS	-
Antimony	0.013 [E,H] 0.016 [E,H]	-
Arsenic	0.0041 J/0.0075 J	-
Cadmium	NS	-
Chromium	0.0020 J/0.0038 J	-
Copper	NS	-
Cyanide (total)	0.0050 U	-
Iron	NS	-
Lead	NS	0.0053 [E,H]
Manganese	NS	-
Mercury	0.00020 U	-
Nickel	NS	-
Selenium	0.0020 U	-
Silver	0.00050 U	-
Sodium	NS	-
Vanadium	NS	-

GS-16	2/21/2012	12/12/2012
Inorganics	0.25 [E]	NS
Aluminum	0.00095 J	NS
Antimony	0.005 U	NS
Arsenic	0.001 U	NS
Cadmium	0.005 U	NS
Chromium	0.002 U	NS
Copper	NS	0.026 [D]
Cyanide (total)	0.0021 J	NS
Lead	0.0021 J	NS
Manganese	1.2 [E]	NS
Mercury	0.0002 U	NS
Nickel	0.02 U	NS
Selenium	0.0053 U	NS
Silver	0.0002 U	NS
Vanadium	0.004 U	NS

MW19-16	2/14/2012
Inorganics	0.05 U
Aluminum	0.00021 J/0.00024 J
Antimony	0.005 U/0.0055
Arsenic	0.001 U
Cadmium	0.005 U
Chromium	0.002 U
Copper	0.003 U
Lead	0.0002 U
Manganese	1.5 [E,H]
Mercury	0.0002 U
Nickel	0.02 U
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

MW19-15	1/28/2004
Inorganics	NS
Aluminum	NS
Antimony	NS
Arsenic	NS
Cadmium	NS
Chromium	0.0050 U
Copper	NS
Cyanide (total)	0.033 [D]
Iron	NS
Lead	NS
Manganese	NS
Mercury	NS
Nickel	NS
Selenium	0.0017 J
Silver	0.00050 U
Sodium	NS
Vanadium	NS

MW-18-46	12/19/1996	3/21/1997
Inorganics	0.8000 [D,E]	0.0530 [E]
Lead		

MW-3	3/21/1997	11/26/2002
Inorganics		
Chloride		
Lead	0.0030	595 [E]

GS-4	3/10/2006	6/28/2006	10/3/2006	12/5/2006	3/7/2007	6/6/2007	9/7/2007	12/7/2007	3/26/2008	9/24/2008	3/27/2009	12/12/2012
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	0.273 [E,H]	NS	0.05 U	NS
Aluminum	0.00077 J	0.00059 J	0.00069 J	0.0006 J	0.00054 J	0.0002 U	0.00021 J	0.00033 J	0.0015 J	NS	NS	NS
Antimony	0.005 U	0.0135 [D,E,H]	0.005 U	0.0047 J	0.005 U	0.0049 J	0.005 U	0.005 U	0.005 U	0.005 U	NS	NS
Arsenic	0.001 U	0.001 U	0.001 U	0.001 U	0.00018 J	0.00011 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	NS	NS
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NS	NS
Chromium	0.0043	0.002 U	0.0117	0.0044 U	0.002 U	0.0021	0.0037	0.00037 J	0.0049	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.010 U	NS
Cyanide (total)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	NS	NS
Manganese	0.86 [E,H]	3.74 [E,H]	0.343 [E,H]	2.15 [E,H]	1.39 [E,H]	1.26 [E,H]	1.62 [E,H]	1.25 [E,H]	0.663 [E,H]	0.796 [E,H]	NS	NS
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	NS	NS
Nickel	0.0105 J	0.0118 J	0.0145 J	0.0195 J	0.0105 J	0.0062 J	0.0099 J	0.0173 J	0.0077 J	0.0313	NS	NS
Selenium	0.005 U	0.005 U	0.005 U	0.00094 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NS	NS
Silver	0.0002 U	0.00095 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	NS	NS
Vanadium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	NS	NS

MW19-39	2/16/2012
Inorganics	0.034 J
Aluminum	0.003
Antimony	0.0005 U
Arsenic	0.00073 J
Cadmium	0.005 U
Chromium	0.002 U
Copper	0.003 U
Lead	0.003 U
Manganese	0.47 [E]
Mercury	0.0002 U
Nickel	0.02 U
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

MW19-34	2/22/2012	5/23/2012
Inorganics	0.18 [E] 0.2 [E]	0.12 [E]
Aluminum	0.00046 J/0.00051 J	0.00042 J
Antimony	0.005 U	0.005 U
Arsenic	0.001 U	0.001 U
Cadmium	0.005 U	0.005 U
Chromium	0.002 U	0.002 U
Copper	0.003 U	0.003 U
Lead	NS	0.58 [E]
Manganese	0.48 [E] 0.49 [E]	0.48 [E]
Mercury	0.0002 U	0.0002 U
Nickel	0.0036 J/0.0041 J	0.02 U
Selenium	0.005 U	0.005 U
Silver	0.0002 U	0.0002 U
Vanadium	NS	1600 [E]

GS-1	2/14/2012
Inorganics	0.05 U
Aluminum	0.0003 J
Antimony	0.0038 J
Arsenic	0.001 U
Cadmium	0.005 U
Chromium	0.005 U
Copper	0.002 U
Lead	0.003 U
Manganese	0.66 [E,H]
Mercury	0.0002 U
Nickel	0.02 U
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

MW19-11	2/13/2012
Inorganics	0.05 U
Aluminum	0.001 U
Antimony	0.0041
Arsenic	0.005 U
Cadmium	0.001 U
Chromium	0.0075
Copper	0.002 U
Lead	0.003 U
Manganese	0.35 [E]
Mercury	0.0002 U
Nickel	0.0099 J
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

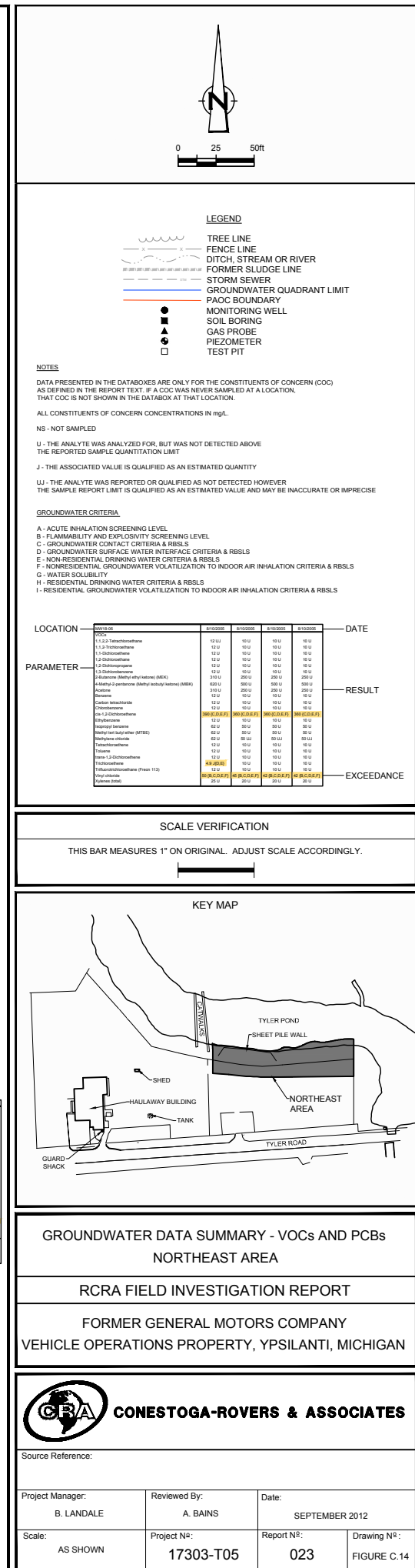
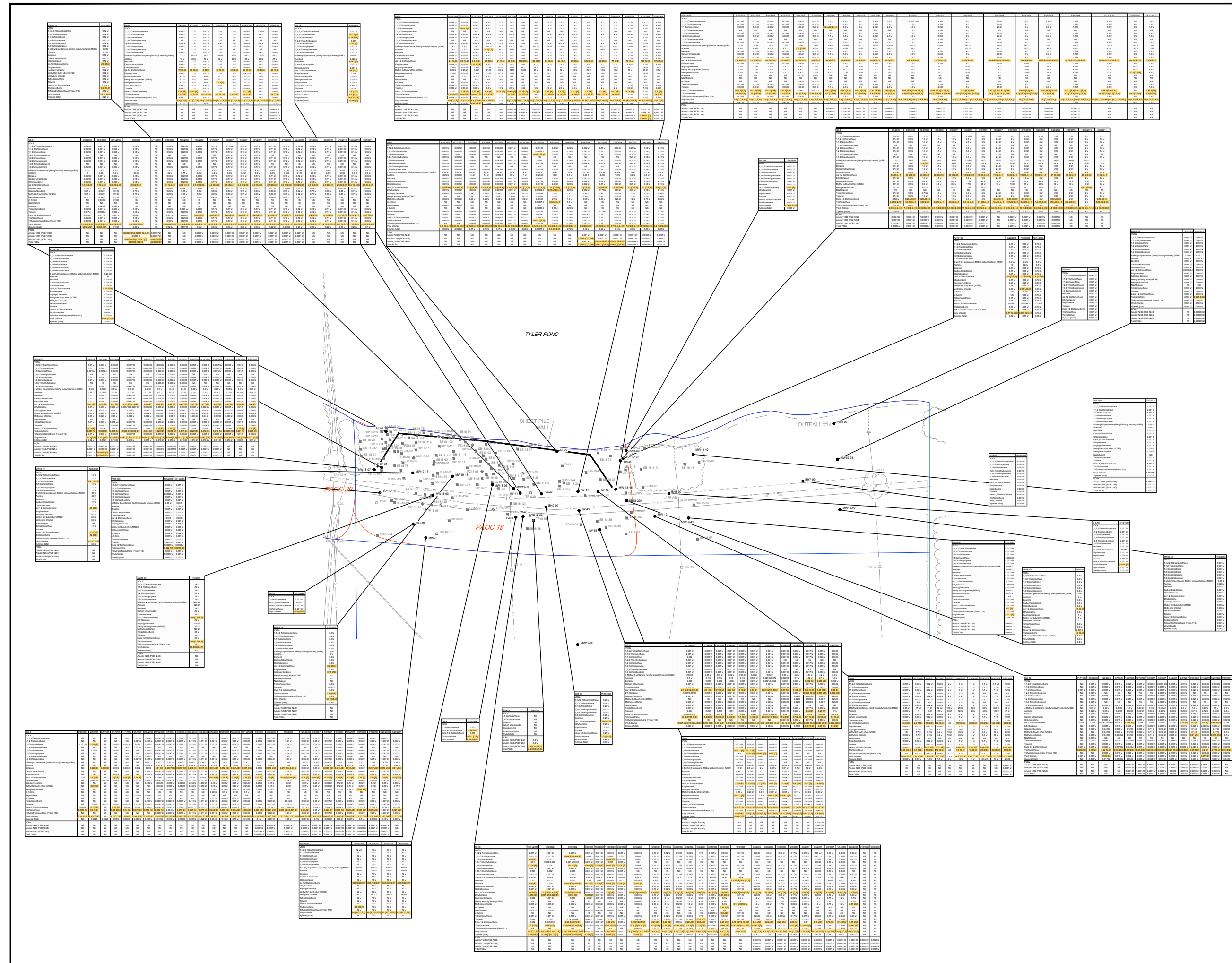
MW19-35	2/21/2012	5/23/2012
Inorganics	0.044 J	0.076 [E]
Aluminum	0.00057 J	0.00033 J
Antimony	0.0078	0.015 [D,E]
Arsenic	0.001 U	0.01 U
Cadmium	0.0043 J	0.016
Chromium	0.002 U	0.002 U
Copper	NS	5.3 [E]
Iron	0.003 U	0.003 U
Lead	0.003 U	0.003 U
Manganese	1.8 [E]	2.4 [E]
Mercury	0.0002 U	0.0002 U
Nickel	0.0041 J	0.02 U
Selenium	0.005 U	0.005 U
Silver	0.0002 U	0.0002 U
Sodium	NS	170
Vanadium	0.004 U	0.004 U

MW19-36	2/16/2012
Inorganics	0.11 [E]
Aluminum	0.0024
Antimony	0.005 U
Arsenic	0.001 U
Cadmium	0.005 U
Chromium	0.002 U
Copper	0.003 U
Lead	0.003 U
Manganese	0.74 [E]
Mercury	0.0002 U
Nickel	0.0049 J
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

MW19-37	2/16/2012
Inorganics	0.029 J
Aluminum	0.00095 J
Antimony	0.005 U
Arsenic	0.001 U
Cadmium	0.005 U
Chromium	0.002 U
Copper	0.003 U
Lead	0.003 U
Manganese	0.34 [E]
Mercury	0.0002 U
Nickel	0.0071 J
Selenium	0.0032 [D]
Silver	0.0002 U
Vanadium	0.004 U

LEGEND

- TREE LINE
- FENCE LINE
- DITCH, STREAM OR RIVER
- FORMER SLUDGE LINE
-



GS-6	3/9/2006	6/29/2006	10/3/2006	12/5/2006	3/12/2007	6/5/2007	9/5/2007	12/5/2007	3/26/2008	6/19/2008	9/24/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	0.0024	0.0028	0.0045	0.0007 J	0.00017 J	0.0002 U	0.00014 J	0.002 U	0.002 U	0.0036 J	0.00018 J
Antimony	0.0007	0.0155 (D,E,H)	0.0267 (D,E,H)	0.005 U	0.005 U	0.0044 J	0.005 U	0.005 U	0.005 U	0.005 U	0.0036 J
Arsenic	0.00064 J	0.0022	0.0206 (D,E,H)	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005	0.0018 J	0.008	0.005 U	0.005 U	0.0003 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.0051	0.0048	0.0044	0.002 U	0.002 U	0.0023	0.0019 J	0.002 U	0.002 U	0.002 U	0.002 U
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	0.0119 (E,H)	0.0038	0.229 (D,E,H)	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead	0.228 (E,H)	0.12 (E,H)	0.568 (E,H)	0.085 (E,H)	0.069 (E,H)	0.062 (E,H)	0.057 (E,H)	0.0374	0.0635 (E,H)	0.054 (E,H)	0.0364
Mercury	0.0216	0.0206	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Nickel	0.005 U	0.005 U	0.005 U	0.0005 J	0.0005 J	0.00074 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Selenium	0.00011 J	0.0002 U	0.0001 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silver	0.0047 (H)	0.004 U	0.0526 (D,H)	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Vanadium	0.0047 (H)	0.004 U	0.0526 (D,H)	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

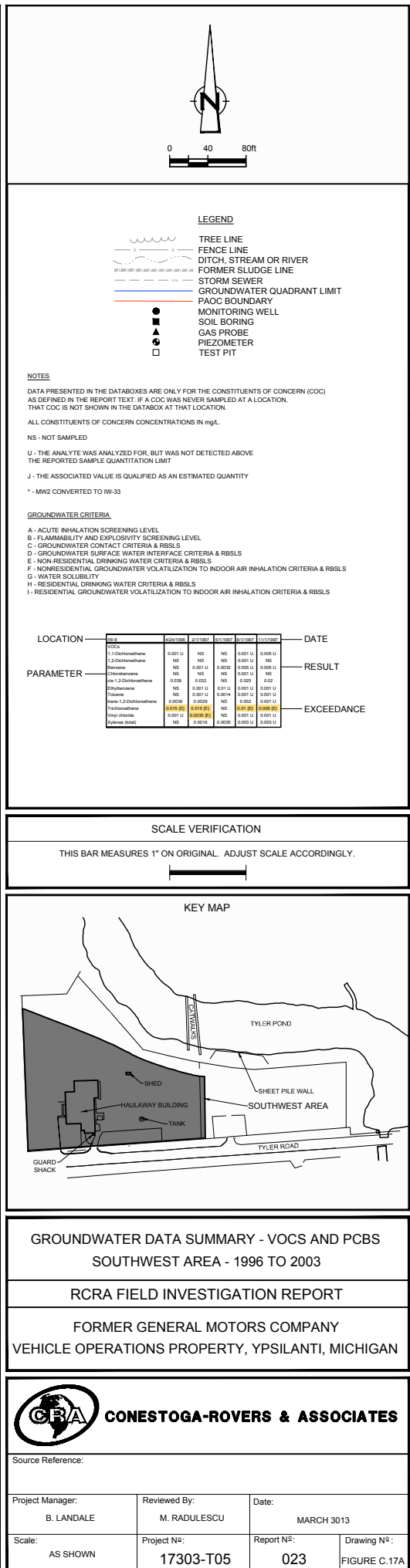
MW-16-07	3/8/2006	7/6/2006	10/3/2006	12/5/2006	3/9/2007	6/5/2007	9/5/2007	12/5/2007	3/26/2008	6/19/2008	9/24/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	0.00064 J	0.00013 J	0.002 U	0.00096 J	0.0002 U	0.00022 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Antimony	0.005 U	0.005 U	0.005 U	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J
Arsenic	0.00064 J	0.00013 J	0.002 U	0.00096 J	0.0002 U	0.00022 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cadmium	0.00064 J	0.00013 J	0.002 U	0.00096 J	0.0002 U	0.00022 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chromium	0.005 U	0.005 U	0.005 U	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J	0.00017 J
Copper	0.0084	0.0087	0.0057	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	0.472 (E)	0.354 (E)	0.292 (E)	0.25 (E)	0.257 (E)	0.332 (E)	0.33 (E)	0.286 (E)	0.245 (E)	0.323 (E)	0.655 (E)
Manganese (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.0042 J	0.0036 J	0.0028 J	0.0016 J	0.0022 J	0.0022 J	0.0022 J	0.0022 J	0.0022 J	0.0022 J	0.0022 J
Nitrite (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.005 U	0.00035 J	0.005 U	0.005 U	0.0037	0.0025 J	0.0011 J	0.0013 J	0.002 U	0.002 U	0.002 U
Silver	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

MW-41	3/8/2007	4/20/2007	6/7/2007	9/5/2007	9/5/2007	12/4/2007	3/24/2008	6/18/2008	9/25/2008	3/26/2009
Inorganics	NS	-	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	0.00045 J	-	0.00032 J	0.00044 J	NS	0.00034 J	0.00047 J	0.00033 J	0.00045 J	0.00045 J
Antimony	0.005 U	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	0.0005 U	-	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005 U	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.0033 U	-	0.0027 U	0.0013 J	0.0022	0.00088 J	0.00088 J	0.00088 J	0.00088 J	0.00088 J
Copper	NS	-	NS	NS	NS	NS	NS	NS	NS	NS
Iron	1.53 (E)	-	2.71 (E)	NS	NS	16.3 (E)	25.3 (E)	14.3 (E)	NS	19.1 (E)
Iron (dissolved)	NS	-	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.0025 J	-	0.0025 J	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	12.6 (D,E)	-	8.59 (D,E)	13.1 (D,E)	NS	10.3 (D,E)	14.5 (D,E)	10.1 (D,E)	8.47 (E)	7.06 (D,E)
Manganese (dissolved)	NS	-	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.0002 U	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.0086 J	-	0.0086 J	0.0155 J	NS	0.014 J	0.0108 J	0.0069 J	0.0101 J	0.0094 J
Nitrite (as N)	0.70	-	0.43 J	NS	NS	0.10 U	0.20	0.10 U	0.10 U	0.10 U
Selenium	0.0071 (D)	-	0.0153 (D)	0.002 U	NS	0.002 U	0.0114 (D)	0.0076 (D)	0.002 U	0.002 U
Silver	0.0002 U	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sulfate	72.8	-	62.0 J	NS	NS	7.4	53.5	34.6	95.4	NS
Vanadium	0.0058	-	0.005	0.0027 J	NS	0.0032 J	0.004	0.0025 J	0.0022 J	0.004 U

MW-6	3/21/1997	3/8/2006	6/30/2006	10/5/2006	12/6/2006	3/8/2007	6/5/2007	9/5/2007	12/6/2007	3/25/2008	6/18/2008	9/23/2008
Inorganics	-	NS	NS	NS	NS	NS	NS	NS	NS	0.0753 (E)	NS	NS
Aluminum	-	0.00013 J	0.00052 J	0.00027 J	0.0006 J	0.002 U	0.00013 J	0.00017 J	0.002 U	0.002 U	0.002 U	0.002 U
Antimony	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cadmium	-	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Chromium	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper	-	0.0036	0.002 U	0.0021 U	0.0024 U	0.002 U	0.0001 J	0.0023 U	0.002 U	0.002 U	0.0008 J	0.0008 J
Iron	-	NS	NS	NS	NS	NS	NS	NS	NS	7.32 (E)	NS	NS
Iron (dissolved)	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.0050 U	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	-	0.342 (E)	0.347 (E)	0.338 (E)	0.345 (E)	0.299 (E)	0.352 (E)	0.326 (E)	0.315 (E)	0.305 (E)	0.33 (E)	0.355 (E)
Manganese (dissolved)	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	-	0.0002 U	0.0001 (D)	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nitrite (as N)	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	-	0.005 U	0.003 J	0.005 U	0.005 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Silver	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sulfate	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

MW-48	12/14/2001	1/14/2002	3/14/2002	5/6/2002	7/22/2002	11/25/2002	6/26/2003	8/13/2003	3/8/2006	6/30/2006	10/5/2006	12/6/2006	3/8/2007	6/5/2007	9/5/2007	12/4/2007	3/25/2008	6/18/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloride	405 (E)	426 (E)	441 (E)	431 (E)	685 (E)	513 (E)	788 (E)	1250 (E)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	5.73 (E)	5.47 (E)	5.76 (E)	13.4 (D,E)	15.2 (D,E)	6.64 (D,E)	88 (D,E)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MW-49	12/14/2001	1/14/2002	3/14/2002	5/6/2002	7
-------	------------	-----------	-----------	----------	---



Parameter	12/13/2001	1/14/2002	3/14/2002	5/6/2002	7/22/2002	11/25/2002	3/9/2006	7/5/2006	10/4/2006	12/6/2006	3/9/2007	6/5/2007	9/6/2007	12/6/2007	3/27/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U	NS
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.002 U	NS
Antimony	NS	NS	NS	NS	NS	NS	0.0006 J	0.00097 J	0.00054 J	0.0002 U	0.00052 J	0.00046 J	0.00081 J	0.001 J	0.00027 J	0.002 U
Arsenic	NS	NS	NS	NS	NS	NS	0.0005 U	0.0005 U	0.00045 J	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	NS	NS	NS	NS	NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.00013 J	0.00019 J	0.00019 J	0.00019 J	0.00019 J	0.00019 J
Chloride	637 [E]	478 [E]	297 [E]	174	496 [E]	753 [E]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	0.005 U	0.005 U	0.005 U	0.0036 J	0.0024 J	0.005 U	0.0075	0.005 U	0.005 U	NS
Copper	NS	NS	NS	NS	NS	NS	0.0025 U	0.0034	0.0033 U	0.002 U	0.002 U	0.0014 J	0.0021 U	0.002 U	0.00097 J	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	0.63 [E]	4.74 [E]	8.43 [D,E]	160 [D,E]	2 [E]	NS	15.7 [D,E]	12.8 [D,E]	13.9 [D,E]	12.5 [D,E]	12.1 [D,E]	11.8 [D,E]	9.09 [D,E]	11.5 [D,E]	8.88 [D,E]	7.58 [D,E]
Manganese (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	0.0167 J	0.0158 J	0.0173 J	0.0162 J	0.0139 J	0.0127 J	0.0127 J	0.0088 J	0.0101 J	NS
Nitrite (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Silver	NS	NS	NS	NS	NS	NS	0.0002 U	0.00014 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sulfate	NS	NS	NS	NS	NS	NS	NS	142	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	0.0048	0.0048	0.005	0.0046	0.0048	0.0038 J	0.0044	0.0049	0.0023 J

Parameter	10/14/2000	10/20/2000	1/12/2001	2/12/2001	3/21/2001	4/17/2001	5/24/2001
Inorganics	NS	NS	NS	NS	NS	NS	NS
Chloride	1170 [E]	1170 [E]	1580 [E]	1640 [E]	1360 [E]	1190 [E]	1400 [E]

Parameter	1/12/2001	2/12/2001	4/17/2001	5/24/2001
Inorganics	NS	NS	NS	NS
Chloride	1640 [E]	1420 [E]	1140 [E]	1310 [E]

Parameter	10/14/2000	3/21/2001
Inorganics	NS	NS
Chloride	1210 [E]	1060 [E]

Parameter	10/14/2000	10/20/2000	1/12/2001	2/12/2001	3/21/2001	4/17/2001	5/24/2001
Inorganics	NS	NS	NS	NS	NS	NS	NS
Chloride	1460 [E]	1580 [E]	1580 [E]	500 [E]	1440 [E]	1440 [E]	474 [E]

Parameter	2/22/2002	5/23/2002
Inorganics	NS	NS
Aluminum	0.002 [E]	0.088 [E]
Antimony	0.0002 J	0.002 U
Arsenic	0.0002 U	0.014 [D,E]
Cadmium	0.001 U	0.001 U
Chromium	0.005 U	0.005 U
Copper	0.002 U	0.002 U
Iron	NS	NS
Iron (dissolved)	NS	NS
Lead	0.003 U	0.003 U
Manganese	0.73 [E]	1 [E]
Mercury	0.0001 U	0.0001 U
Nickel	0.0035 J	0.02 U
Selenium	0.005 U	0.005 U
Silver	0.0002 U	0.0002 U
Sulfate	NS	NS
Vanadium	0.004 U	0.004 U

Parameter	11/26/2002
Inorganics	NS
Chloride	1580 [E]

Parameter	6/16/2005
Inorganics	NS
Aluminum	0.0011 J
Antimony	0.0079
Arsenic	0.004 J
Cadmium	0.0003 U
Chromium	0.003 U
Copper	0.003 U
Lead	0.003 U
Manganese	0.918 [E]
Mercury	0.0002 U
Nickel	0.02 U
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.004 U

Parameter	8/16/2005
Inorganics	NS
Aluminum	0.0014 J
Antimony	0.0059
Arsenic	0.001 U
Cadmium	0.004 J
Chromium	0.0003 U
Copper	0.002 U
Lead	0.003 U
Manganese	12.1 [D,E]
Mercury	0.0002 U
Nickel	0.0015 J
Selenium	0.005 U
Silver	0.000057 J
Vanadium	0.0064

Parameter	2/22/2002	5/23/2002
Inorganics	NS	NS
Aluminum	0.19 [E]	0.049 J
Antimony	0.0002 J	0.00014 J
Arsenic	0.005 U	0.005 U
Cadmium	0.001 U	0.001 U
Chromium	0.005 U	0.005 U
Copper	0.002 U	0.002 U
Iron	NS	NS
Iron (dissolved)	NS	NS
Lead	0.003 U	0.003 U
Manganese	0.27 [E]	0.12 [E]
Mercury	0.0002 U	0.0002 U
Nickel	0.003 J	0.02 U
Selenium	0.005 U	0.005 U
Silver	0.0002 U	0.0002 U
Sulfate	NS	NS
Vanadium	0.004 U	0.004 U

Parameter	6/16/2005
Inorganics	NS
Aluminum	0.00039 J
Antimony	0.0005 J
Arsenic	0.0005 U
Cadmium	0.001 U
Chromium	0.005 U
Copper	0.0002 U
Lead	0.0002 U
Manganese	0.151 [E]
Mercury	0.0002 U
Nickel	0.0001 J
Selenium	0.0002 U
Silver	0.0002 U
Vanadium	0.0004 U

Parameter	6/16/2005
Inorganics	NS
Aluminum	0.00039 J
Antimony	0.0005 J
Arsenic	0.0005 U
Cadmium	0.00049 J
Chromium	0.005 U
Copper	0.0002 U
Lead	0.0002 U
Manganese	0.243 [E]
Mercury	0.0002 U
Nickel	0.0002 J
Selenium	0.0002 U
Silver	0.0002 U
Vanadium	0.0004 U

Parameter	2/13/2002
Inorganics	NS
Aluminum	0.05 U
Antimony	0.00014 J
Arsenic	0.0005 U
Cadmium	0.001 U
Chromium	0.005 U
Copper	0.002 U
Lead	0.003 U
Manganese	0.067 [E]
Mercury	0.0002 U
Nickel	0.0002 J
Selenium	0.0002 U
Silver	0.0002 U
Vanadium	0.0004 U

Parameter	9/30/2001
Inorganics	NS
Aluminum	0.028 J
Antimony	0.0007 J
Arsenic	0.00034 J
Cadmium	0.001 U
Chromium	0.005 U
Copper	0.002 U
Lead	0.003 U
Manganese	0.11 [E]
Mercury	0.0002 U
Nickel	0.0002 J
Selenium	0.0002 U
Silver	0.0002 U
Vanadium	0.0004 U

Parameter	9/30/2001
Inorganics	NS
Aluminum	0.05 U
Antimony	0.0007 J
Arsenic	0.00034 J
Cadmium	0.001 U
Chromium	0.005 U
Copper	0.002 U
Lead	0.003 U
Manganese	0.18 [E]
Mercury	0.0002 U
Nickel	0.0002 J
Selenium	0.0002 U
Silver	0.0002 U
Vanadium	0.0004 U

Parameter	11/26/2002	3/9/2006	6/29/2006	10/4/2006	12/6/2006	3/9/2007	6/5/2007	9/6/2007	12/6/2007	3/27/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Parameter	12/13/2001	1/14/2002	3/14/2002	5/6/2002	7/22/2002	11/25/2002	3/9/2006	7/5/2006	10/4/2006	12/6/2006	3/9/2007	6/5/2007	9/6/2007	12/6/2007	3/27/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloride	668 [E]	854 [E]	698 [E]	877 [E]	478 [E]	496 [E]	946 [E]	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	0.378 [E]	4.92 [E]	20 [D,E]	6.51 [E]	2.04 [E]	2.2 [E]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese (dissolved)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Parameter	11/26/2002
Inorganics	NS
Chloride	928 [E]

Parameter	12/13/2001	1/14/2002	3/14/2002	5/6/2002	7/22/2002	11/25/2002	3/9/2006	7/
-----------	------------	-----------	-----------	----------	-----------	------------	----------	----

[illegible][illegible]

The diagram illustrates a lightning bolt striking a cloud. The cloud is depicted as a fluffy shape with the word "CLOUD" written inside. A jagged line representing a lightning bolt, labeled "LIGHTNING", extends from the cloud towards the bottom left. The background is a light blue gradient. The diagram is part of a presentation slide titled "Lightning".

MMV19-06	12/1/2023	02/28/2011
VOCS		
1,1,2,2-Tetrachloroethane	0.001 U	0.001 U
1,1,2,2-Trichloroethane	0.001 U	0.001 U
1,1-Dichloroethane	0.001 U	0.001 U
1,2-Dichloroethane	0.001 U	0.001 U
1,2-Dichloropropane	0.001 U	0.001 U
1,3-Dichlorobenzene	0.001 U	0.001 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	0.05 U	0.01 U
Aromatics	0.025 U	0.01 U
Benzene	0.001 U	0.001 U
Chlorobenzene	0.001 U	0.001 U
1,2-Dichlorobenzene	0.001 U	0.001 U
Chlorobenzene	0.001 U	0.001 U
1,2-Dichlorobenzene	0.001 U	0.001 U
Ethylbenzene	0.001 U	0.001 U
Isopropyl benzene	0.005 U	0.001 U
Methyl tert butyl ether (MTBE)	0.005 U	0.005 U
Methylene chloride	0.001 U	0.001 U
Tetrachloroethene	0.001 U	0.001 U
Toluene	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.001 U	0.001 U

1000000

Vinyl chloride	0.001 U	0.001 U
Styrene (total)	0.002 U	0.002 U

04/8/99	11/19/1999
VOCs	
1,1,2,2-Tetrachloroethane	0.001 U
1,1,2-Trichloroethane	0.001 U
1,1-Dichloroethane	0.001 U
1,2,4-Trimethylbenzene	0.001 U
1,3,5-Trimethylbenzene	0.001 U
1,3-Dichlorobenzene	0.001 U
Benzene	0.001 U
cis-1,2-Dichloroethane	0.001 U
Ethylbenzene	0.001 U
Naphthalene	0.005 U
Toluene	0.001 U

9/13/2006

0.002

7.03 (S)

9.301 (H)

0.001 U

4.88 (C/S)

SB19-47

TW-10

MW19-0

BH3-99

SB19-48

5/3/2007

SB19-48

VOCs

	Vinyl chloride	0.001 U
	Xylenes (all)	0.003 U

	12/13/2011
Nonathene	0.001 U
ene	0.001 U
de	0.001 U

	10/18/2011
Nonathene	0.001 U
ene	0.001 U
de	0.001 U

	9/29/2011
Nonathene	0.00042 J
ene	0.00052 J
de	0.00074 J

1

	06/13/99
1,1-Dichloroethene	0.02 U
1,2,4-Trinitrobenzene	0.02 U
1,2-Dichloroethane	0.02 U
1,2-Dichlorobenzene	0.02 U
1,3,5-Trinitrobenzene	0.02 U
1,3,5-Tetrachlorobenzene	0.02 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1.0 U
Acetone	0.5 U
Benzene	0.02 U
Carbon tetrachloride	0.02 U
Chlorobenzene	0.02 U
1,1,1-Trichloroethene	0.6 (E)
Styrene	0.02 U
Isopropyl benzene	0.1 U
Methyl tert butyl ether (MTBE)	0.1 U
Methylene chloride	0.1 U
Tetrachloroethene	0.02 U
Toluene	0.02 U
trans-1,2-Dichloroethene	0.02 U
Trichloroethene	0.02 U
Trichlorofluoromethane (Freon 113)	0.02 U
1,1,1,2-Tetrachloroethene	0.48 (D)
Xylenes (total)	0.04 U

06/13/99

VOCs

1,1,2,2-Tetra

1,1,1-Trichloro

1,1-Dichloro

1,2,4-Trinitro

1,3,5-Tetrachloro

1,3,5-Trinitro

1,3-Dichloro

Benzene

1,1-Dichloro

1,2,4-Trinitro

Naphthalene

Toluene

trans-1,2-Dichloro

Trichloroethene

Vinyl chloride

Xylenes (total)

Mittel aus	12/10/2003	12/12/2003
VOCs		
1,1,2,2-Tetrachloroethane	0.001 U	NS
1,1-Dichloroethane	0.001 U	NS
1,2-Dichloroethane	0.001 U	NS
1,2-Dichloropropane	0.001 U	NS
1,3-Dichlorobenzene	0.001 U	NS
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	0.05 U	NS
Aroclor	0.1 U	NS
Benzene	0.001 U	NS
Carbon tetrachloride	0.001 U	NS
Chlorobenzene	0.001 U	NS
cis-1,2-Dichloroethene	NS	0.001 U
Dibutylene	0.001 U	NS
Methylene chloride	0.005 U	NS

	12/7/2006	3/12/2007	6/6/2007	8/7/2007	12/6/2007	3/27/2008	6/19/2008	8/24/2008	9/28/2011
0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NS
0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NS
NS	NS	0.001 U	0.001 U	0.001 U	0.001 U	NS	NS	NS	NS

1

[illegible]

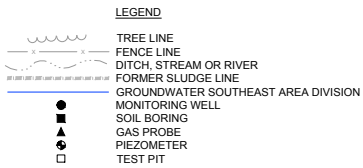
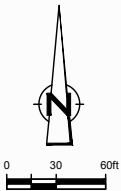
Toluene	0.001 U	NS
Trichloroethylene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U
Xylenes (total)	0.003 U	NS
PCB's		
Aroclor-1248 (PCB-1248)	NS	NS
Aroclor-1254 (PCB-1254)	NS	NS
Aroclor-1260 (PCB-1260)	NS	NS
Total PCB's	NS	NS

[illegible]1

NS	NS	NS	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
NS	NS	NS	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
NS	NS	NS	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
NS	NS	NS	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U

1





NOTES

DATA PRESENTED IN THE DATABASES ARE ONLY FOR THE CONSTITUENTS OF CONCERN (COC) AS DEFINED IN THE REPORT TEXT. IF A COC WAS NEVER SAMPLED AT A LOCATION, THAT COC IS NOT SHOWN IN THE DATABASE AT THAT LOCATION.

ALL CONSTITUENTS OF CONCERN CONCENTRATIONS IN mg/L.

NS - NOT SAMPLED

U - THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT

72-INCH YCVA SEWER, SBOS-03A AND SBOS-04A ARE NOT SURVEYED.

GROUNDWATER CRITERIA

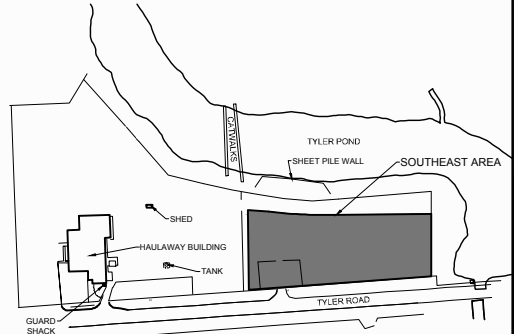
A - ACUTE INHALATION SCREENING LEVEL
B - FLAMMABILITY AND EXPLOSIVITY SCREENING LEVEL
C - GROUNDWATER CONTACT CRITERIA & RBSLS
D - GROUNDWATER SURFACE WATER INTERFACE CRITERIA & RBSLS
E - NON-RESIDENTIAL DRINKING WATER CRITERIA & RBSLS
F - NON-RESIDENTIAL GROUNDWATER VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA & RBSLS
G - WATER SOLUBILITY
H - RESIDENTIAL DRINKING WATER CRITERIA & RBSLS
I - RESIDENTIAL GROUNDWATER VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA & RBSLS

LOCATION	MW19-02	3/7/2006	DATE
PARAMETER	SVOCs		
	Benzo(a)anthracene	0.001 U	
	Benzo(a)pyrene	0.001 U	
	Benzo(b)fluoranthene	0.001 U	
	Benzo(g,h,i)perylene	0.001 U	
	Benzo(k)fluoranthene	0.001 U	
	Chrysene	0.001 U	
	Di-n-butylphthalate (DBP)	0.005 U	
	Fluoranthene	0.001 U	
	Indeno(1,2,3-cd)pyrene	0.002 U	
	Naphthalene	0.005 U	
	Phenanthrene	0.002 U	
	Phenol	0.005 U	

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

KEY MAP



GROUNDWATER DATA SUMMARY - SVOCS SOUTHEAST AREA

RCRA FIELD INVESTIGATION REPORT

FORMER GENERAL MOTORS COMPANY
VEHICLE OPERATIONS PROPERTY, YPSILANTI, MICHIGAN



Source Reference:

Project Manager: B. LANDALE	Reviewed By: M. RADULESCU	Date: SEPTEMBER 2012
Scale: AS SHOWN	Project No: 17303-T05	Report No: 023 Drawing No: FIGURE C.21

DMW2	4/24/2012
SVOCs	
Benzo(a)anthracene	0.0011 U
Benzo(a)pyrene	0.0011 U
Benzo(b)fluoranthene	0.0011 U
Benzo(g,h,i)perylene	0.0011 U
Benzo(k)fluoranthene	0.0011 U
Chrysene	0.0011 U
Di-n-butylphthalate (DBP)	0.0053 U
Fluoranthene	0.0011 U
Indeno(1,2,3-cd)pyrene	0.0021 U
Naphthalene	0.0053 U
Phenanthrene	0.0021 U

MW-14	3/7/2006
SVOCs	
Benzo(a)anthracene	0.001 U
Benzo(a)pyrene	0.001 U
Benzo(b)fluoranthene	0.001 U
Benzo(g,h,i)perylene	0.001 U
Benzo(k)fluoranthene	0.001 U
Chrysene	0.001 U
Di-n-butylphthalate (DBP)	0.005 U
Fluoranthene	0.001 U
Indeno(1,2,3-cd)pyrene	0.002 U
Naphthalene	0.005 U
Phenanthrene	0.002 U

MW19-02	3/7/2006
SVOCs	
Benzo(a)anthracene	0.001 U
Benzo(a)pyrene	0.001 U
Benzo(b)fluoranthene	0.001 U
Benzo(g,h,i)perylene	0.001 U
Benzo(k)fluoranthene	0.001 U
Chrysene	0.001 U
Di-n-butylphthalate (DBP)	0.005 U
Fluoranthene	0.001 U
Indeno(1,2,3-cd)pyrene	0.002 U
Naphthalene	0.005 U
Phenanthrene	0.002 U

MW19-03	3/7/2006
SVOCs	
Benzo(a)anthracene	0.001 U
Benzo(a)pyrene	0.001 U
Benzo(b)fluoranthene	0.001 U
Benzo(g,h,i)perylene	0.001 U
Benzo(k)fluoranthene	0.001 U
Chrysene	0.001 U
Di-n-butylphthalate (DBP)	0.005 U
Fluoranthene	0.001 U
Indeno(1,2,3-cd)pyrene	0.002 U
Naphthalene	0.005 U
Phenanthrene	0.002 U

GS-7	3/10/2006
SVOCs	
Benzo(a)anthracene	0.001 U
Benzo(a)pyrene	0.001 U
Benzo(b)fluoranthene	0.001 U
Benzo(g,h,i)perylene	0.001 U
Benzo(k)fluoranthene	0.001 U
Chrysene	0.001 U
Di-n-butylphthalate (DBP)	0.005 U
Fluoranthene	0.001 U
Indeno(1,2,3-cd)pyrene	0.002 U
Naphthalene	0.005 U
Phenanthrene	0.002 U

MW-6U-93	12/10/2003
SVOCs	
Benzo(a)anthracene	0.001 U
Benzo(a)pyrene	0.002 U
Benzo(b)fluoranthene	0.002 U
Benzo(g,h,i)perylene	0.005 U
Benzo(k)fluoranthene	0.005 U
Chrysene	0.005 U
Di-n-butylphthalate (DBP)	0.005 U
Fluoranthene	0.005 U
Indeno(1,2,3-cd)pyrene	0.002 U
Naphthalene	0.005 U
Phenanthrene	0.005 U

MW19-03	3/7/2006	7/7/2006	10/4/2006	12/6/2006	3/9/2007	6/5/2007	9/6/2007	12/5/2007	3/25/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U
Aluminum	0.00025 J	0.00023 J	0.00016 J	0.002 U	0.00011 J	0.00015 J	0.00014 J	0.002 U	0.002 U
Antimony	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.0019 J	0.0014 J	0.0024 U	0.002 U	0.002 U	0.002 U	0.0012 J	0.002 U	0.002 U
Copper	NS	NS	NS	NS	NS	NS	NS	1.2 (E)	0.638 (E)
Iron	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead	0.067 (E)	0.183 (E)	0.189 (E)	0.206 (E)	0.28 (E)	0.2 (E)	0.188 (E)	0.253 (E)	0.249 (E)
Manganese	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000098 J(D)	0.0002 U	0.0002 U	0.0002 U
Mercury	0.0029 J	0.0019 J	0.0016 J	0.0028 J	0.02 U	0.0027 J	0.0016 J	0.02 U	0.02 U
Nickel	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Selenium	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silver	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Vanadium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

DMW2	4/24/2012
Inorganics	1.4 U
Aluminum	0.002 U
Antimony	0.005 U
Arsenic	0.001 U
Cadmium	0.001 U
Chromium	0.0023 J
Copper	0.002 U
Lead	0.003 U
Manganese	0.021
Mercury	0.0002 U
Nickel	0.02 U
Nitrite (as N)	NS
Selenium	0.005 U
Silver	0.0002 U
Vanadium	0.0009 J

MW-14	11/25/2002	3/7/2006	7/6/2006	10/4/2006	12/6/2006	3/8/2007	6/5/2007	9/6/2007	12/5/2007	3/25/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0312 J	NS
Aluminum	NS	0.00029 J	0.00051 J	0.00031 J	0.002 U	0.00028 J	0.00027 J	0.00023 J	0.00019 J	0.00013 J	0.002 U
Antimony	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	NS	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	0.00013 J	0.0005 U	0.0005 U	0.0005 U
Cadmium	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chloride	NS	0.002	0.0017 J	0.0023 U	0.0026 U	0.0037 U	0.006 U	0.002 U	0.0019 J	0.00071 J	0.0015 J
Chromium	NS	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Copper	NS	0.0316	0.0074 J	0.109 (E)	0.0937 (E)	0.0488	0.0956 (E)	0.0499	0.0781 (E)	0.0954 (E)	0.0906 (E)
Iron	NS	NS	0.015 U	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Lead	NS	0.0022 J	0.02 U	0.02 U	0.0022 J	0.02 U	0.0025 J	0.02 U	0.02 U	0.02 U	0.0033 J
Manganese	NS	NS	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS
Manganese (dissolved)	NS	0.0033 J	0.0033 J	0.0033 J	0.0033 J	0.0033 J	0.0029 U	0.0011 J	0.002 U	0.0024 U	0.002 U
Mercury	NS	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	NS	NS	108	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite (as N)	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Selenium	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Silver	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Sulfate	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Vanadium	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

MW-13	11/25/2002	8/8/2005	2/13/2012	5/23/2012
Inorganics	NS	NS	0.05 U	0.05 U
Aluminum	NS	0.00013 J	0.00016 J	0.002 U
Antimony	NS	0.005 U	0.005 U	0.005 U
Arsenic	NS	0.001 U	0.001 U	0.001 U
Cadmium	NS	0.001 U	0.001 U	0.001 U
Chloride	151/186	NS	NS	NS
Chromium	NS	0.005 U	0.005 U	0.005 U
Copper	NS	0.00052 J	0.0029 U	0.002 U
Cyanide (total)	NS	0.010 U	NS	NS
Iron	NS	NS	NS	0.11
Lead	NS	0.003 U	0.003 U	0.003 U
Manganese	NS	0.0089 J	0.031	0.0062 J
Mercury	NS	0.0002 U	0.0002 U	0.0002 U
Nickel	NS	0.02 U	0.02 U	0.02 U
Selenium	NS	0.005 U	0.005 U	0.005 U
Silver	NS	0.0002 U	0.0002 U	0.0002 U
Sodium	NS	NS	NS	21
Vanadium	NS	0.004 U	0.004 U	0.004 U

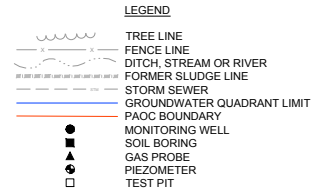
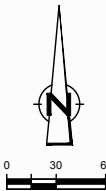
MW19-04	8/8/2005	2/13/2012	5/23/2012
Inorganics	NS	0.05 U	0.04 J(0.093 (E)
Aluminum	0.00015 J(0.0002 J	0.002 U	0.002 U
Antimony	0.005 U	0.005 U	0.005 U
Arsenic	0.001 U	0.001 U	0.001 U
Cadmium	0.005 U	0.005 U	0.005 U
Chromium	0.00072 J(0.0008 J	0.002 U	0.002 U
Copper	0.010 U	NS	NS
Cyanide (total)	NS	NS	NS
Iron	NS	NS	0.17 J(0.38 J(E)
Lead	0.003 U	0.003 U	0.003 U
Manganese	0.015 U	0.031	0.048(0.068 (E)
Mercury	0.0002 U	0.0002 U	0.0002 U
Nickel	0.0029 J(0.02 U	0.02 U	0.02 U
Selenium	0.005 U	0.005 U	0.005 U
Silver	0.0002 U	0.0002 U	0.0002 U
Sodium	NS	NS	53/54
Vanadium	0.004 U	0.004 U	0.004 U

MW-5	3/21/1997
Inorganics	0.0050 U
Lead	0.0050 U

MW19-02	3/7/2006	6/30/2006	7/5/2006	10/4/2006	12/6/2006	3/9/2007	6/6/2007	9/7/2007	12/5/2007	3/26/2008	9/23/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aluminum	0.0001 J	0.00012 J(0.002 U	NS	0.00023 J	0.002 U	0.00022 J(0.00038 J	0.0002 J	0.002 U	0.002 U	0.002 U	0.002 U
Antimony	0.005 U	0.005 U	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	0.001 U	0.001 U	NS	0.001 U	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005 U	0.005 U	NS	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.0014 J	0.002 U	NS	0.002 U	0.002 U	0.00098 J(0.00076 J	0.002 U	0.00098 J	0.002 U	0.00072 J	0.00072 J
Copper	NS	0.597 (E)(0.615 (E)	NS	NS	NS	NS	NS	1.36 (E)	0.979 (E)	NS	NS
Iron	NS	0.593 (E)	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron (dissolved)	NS	0.578 (E)	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.003 U	0.003 U	NS	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	0.133 (E)	0.169 (E)(0.177 (E)	NS	0.304 (E)	0.14 (E)	0.183 (E)(0.204 (E)	0.0895 (E)(0.0898 (E)	0.174 (E)	0.184 (E)	0.125 (E)	0.179 (E)
Manganese (dissolved)	NS	0.163 (E)	NS	0.143 (E)	NS	NS	NS	NS	NS	NS	NS
Mercury	0.0002 U	0.000099 J(D)(0.0002 U	NS	0.0002 U	0.0002 U	0.00012 J(D)(0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.02 U	0.0025 J	NS	0.0019 J	0.0014 J	0.02 U	0.02 U	0.026 J	0.02 U	0.02 U	0.02 U
Nitrite (as N)	NS	0.21 J(0.39 J	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.005 U	0.005 U	NS	0.005 U	0.005 U	0.002 U	0.0016 J(0.0017 J	0.002 U	0.002 U	0.002 U	0.002 U
Silver	0.0002 U	0.0002 U	NS	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sulfate	NS	145	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	0.004 U	0.004 U	NS	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U

MW-6U-93	12/10/2003
Inorganics	0.1 U
Aluminum	0.005 U
Antimony	0.005 U
Arsenic	0.005 U
Cadmium	0.0005 U
Chloride	110
Chromium	0.005 U
Copper	0.025 U
Iron	0.53 (E)
Lead	0.003 U
Manganese	0.05
Mercury	0.0002 U
Nickel	0.05 U
Selenium	0.005 U
Silver	0.0005 U
Sodium	140
Sulfate	170
Vanadium	0.02 U

GS-7	3/10/2006	6/28/2006	10/3/2006	12/7/2006	3/12/2007	6/6/2007	9/7/2007	12/6/2007	3/27/2008	6/19/2008	9/24/2008
Inorganics	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U	NS	NS
Aluminum	0.00033 J	0.00075 J	0.002 U	0.00027 J	0.00017 J	0.00017 J	0.002 U	0.002 U	0.00017 J	0.002 U	0.00014 J
Antimony	0.0127 (D,E)	0.0069	0.016 (D,E)	0.0118 (D,E)	0.005 U	0.0156 (D,E)	0.0138 (D,E)	0.0133 (D,E)	0.005 U	0.0103 U	0.0087
Arsenic	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.005 U	0.005 U	0.005 U	0.0017 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.0024 U	0.002 U	0.002 U	0.0025 U	0.0033 U	0.0017 J	0.002 U	0.002 U	0.00098 J	0.002 U	0.0013 U
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	6.81 (D,E)	1.08 (E)	4.33 (E)	5.33 (E)	3.19 (E)	3.28 (E)	3.62 (E)	4.73 (E)	1.99 (E)	2.9 (E)	1.88 (E)
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.003 J	0.0065 J	0.0015 J	0.0024 J	0.02 U	0.02 U	0.0015 J	0.02 U	0.02 U	0.02 U	0.02 U
Selenium	0.005 U	0.005 U	0.005 U	0.005 U	0.0011 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Silver	0.0002 U	0.000053 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U



NOTES
DATA PRESENTED IN THE DATABASES ARE ONLY FOR THE CONSTITUENTS OF CONCERN (COC) AS DEFINED IN THE REPORT TEXT. IF A COC WAS NEVER SAMPLED AT A LOCATION, THAT COC IS NOT SHOWN IN THE DATABASE AT THAT LOCATION.
ALL CONSTITUENTS OF CONCERN CONCENTRATIONS IN mg/L.
NS - NOT SAMPLED.
U - THE ANALYTE WAS ANALYZED FOR, BUT WAS NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT.
J - THE ASSOCIATED VALUE IS QUALIFIED AS AN ESTIMATED

APPENDIX D

BACKGROUND METALS CONCENTRATIONS CALCULATIONS



MEMORANDUM

TO: Laina Jerdon REF. NO.: 017303

FROM: Wesley Dyck/Daniela Araujo/kf/4 DATE: January 29, 2013

RE: **Calculation of Background Values For Inorganics in Groundwater
Willow Run Company Vehicle Operations Area
Ypsilanti, Michigan**

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) has undertaken a statistical evaluation of concentrations of inorganics found in groundwater samples collected from background locations surrounding the Willow Run Company Vehicle Operations Area in Ypsilanti, Michigan (Site). This evaluation has been completed in accordance with the requirements presented in the Michigan Department of Environmental Quality (MDEQ) document *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (Michigan, 2002, referred to as the "S³TM"). A Facility-Specific Background Concentration (as defined in Section 4.3 of Tab 7 of the S³TM) has been determined for naturally-occurring inorganics in local groundwater. These background values have been calculated using analytical data from groundwater samples collected from upgradient (background) wells at the Site, using the statistical procedures described in Section 3.3 of this memorandum.

2.0 SCOPE OF BACKGROUND DATA

Samples suitable for generating Facility-Specific Background Concentrations of inorganics in groundwater were collected from six wells (MW-13, MW19-04, MW19-32, MW19-33, MW19-34 and MW19-35). A total of six to fourteen background samples were collected in August 2005 and February and May 2012. Twenty-five total metals concentrations were reported and background values were calculated.

The background data are provided in Table 1. The S³TM recommends a minimum of nine background samples for establishing a Facility-Specific Background Concentration ("Statistical Guidesheet 10" in Michigan, 2002). The number of background samples collected therefore meets or exceed the requirements in the guidance, with a few exceptions (calcium, iron, magnesium, potassium and sodium). In these cases interim background values were calculated.

3.0 STATISTICAL METHODS

Guidance for collecting and analyzing groundwater background samples in order to calculate Facility-Specific Background Concentrations for assessing compliance with Part 201 requirements is detailed in Chapter 4 of "Statistical Methods" (Tab 7, Section 4.3) of the S³TM. This guidance is also referred to in "Statistical Guidesheets 10, 1, 2 and 6". Facility-Specific Background Concentrations are

suitable for background comparisons performed on a point-by-point basis using a value equal to the mean plus three standard deviations of the background data set, for normally or lognormally-distributed background data. A number of assumptions for background data set must be statistically assessed before the comparisons are performed. The following memorandum sections provide the required details for the statistical calculations.

3.1 NON-DETECTS IN THE BACKGROUND DATA SET

The derivation of calculated Background Values when non-detect data are present is considered in Chapter 5 of Tab 7 of the S³TM. Specifically, for data sets with up to 50 percent non-detects, a value of one-half the detection limit is to be substituted for each non-detect data point prior to statistical evaluations (i.e., distribution testing, outlier testing and background value computation). If more than 50 percent of the background data for a given parameter are non-detect results, then a non-parametric upper tolerance limit (as described in USEPA 2009) should be used, which is based on detected values for the upper end of the background data distribution.

3.2 ASSESSMENT OF DATA CHARACTERISTICS AND ASSUMPTIONS

For background data sets containing up to 50 percent non-detects, an evaluation of the underlying statistical distribution (i.e., normal, lognormal or neither) and the presence of statistical outliers (atypically large or small values) must be evaluated per Section 4.3.1.1 of Tab 7 of the S³TM.

The distribution of the background sample data was assessed using the Shapiro-Wilk W-test and probability plotting (Sections 1.3.5 and 1.3.3, respectively, of Tab 7 of the S³TM), considering both the original and log-transformed concentration data. Concurrently, the presence of statistical outliers was assessed using Dixon's test (for less than 25 data points, Section 2.1.4 of Tab 7 of the S³TM) for the original and log-transformed data sets. Since the assessment of these two data characteristics (distribution and outliers) is interrelated, a final decision on the appropriate data distribution to use was made considering the results of both tests.

The probability plots generated for distribution and outlier testing is provided in Attachment A. Only datasets containing up to 50 percent non-detects were evaluated using probability plots. The results of the data distribution and outlier testing are given in Table 2. Outliers were found for potassium only.

The treatment of statistical outliers is outlined in Section 2.2 of Tab 7 of the S³TM. As noted under *"Facility-specific background samples collected off of the property of interest"* in this section, when background data obtained for the Site are believed to represent naturally occurring background concentrations, these should be retained in background value calculations. All background samples were collected outside former operating areas, and thus would not be impacted by Site related activities. Therefore, all results were retained in background value calculations.

3.3 CALCULATION OF FACILITY-SPECIFIC BACKGROUND CONCENTRATIONS

For normal and lognormal data sets containing up to 50 percent non-detects, the Facility-Specific Background Concentration is calculated as the mean plus three standard deviations (Section 4.3.1.1 of Tab 7

of the S³TM). If greater than 50 percent of the background data are non-detect results, or a given background data set is neither normally nor lognormally distributed, then a non-parametric upper tolerance limit may be used for the Facility-Specific Background Concentration. For fewer than 444 background data points (which is the case for the background sampling undertaken), the nonparametric upper tolerance limit of the 99th percentile of background data is the maximum concentration observed. The choice of the 99th percentile corresponds to the mean plus three standard deviations method, which for a normally-distributed data set is the 99.87th percentile.

4.0 RESULTS AND CONCLUSIONS

Background Values used as screening criteria for the Site have been established for 25 total metals as presented on Table 2. Eight analytes had Facility-Specific Background Concentrations calculated using the mean plus three standard deviation method. Seventeen analytes were detected infrequently (i.e., had more than 50 percent non-detects), and therefore had Facility-Specific Background Concentrations established using non-parametric tolerance limits. For antimony, which was found to be lognormal and was detected in more than half of the background samples, the mean plus three standard deviation method yielded a value below the typical detection limit. Therefore, the detection limit (0.002 milligrams per Litre [mg/L]) was selected as the appropriate background value.

The calculated Facility-Specific Background Values are appropriate for point-by-point comparisons of on-Site data. They are not appropriate for group-based comparisons (such as comparing an area of a site against background conditions), in which case the procedures found in Section 4.3.2 of Tab 7 of the S³TM should be applied. Where on-Site concentrations of metals are above both the Background Value and the applicable generic industrial criterion, follow-up assessment may be necessary. In such cases, professional judgment is to be used to determine whether or not this is a *marginal* exceedance of the Background Value (per the footnote on page 7.85 of the S³TM).

It is noted that the non-parametric tolerance limits reported for certain analytes (see above) do not achieve full 99th percentile coverage of background conditions due to the number of samples available. Therefore, if Site data are observed at or slightly above background values established using non-parametric tolerance limits, the magnitudes of such values, relative to the background value, should be interpreted appropriately.

5.0 REFERENCES

- Michigan, 2002. Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria. Michigan Department of Environmental Quality, Environmental Response Division
- USEPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. Office of Resource Conservation and Recovery, Program Implementation and Information Division, United States Environmental Protection Agency Washington DC. EPA 530-R-09-007.

TABLE 1

**BACKGROUND GROUNDWATER DATA
WILLOW RUN COMPANY VEHICLE OPERATIONS AREA
YPSILANTI, MICHIGAN**

<i>Sample Location:</i>	<i>MW-13</i>	<i>MW-13</i>	<i>MW-13</i>	<i>MW19-04</i>
<i>Sample ID:</i>	<i>WG-17303-080805-DR-0836</i>	<i>GW-17303-021312-CB-045</i>	<i>GW-17303-052312-CB-322</i>	<i>WG-17303-080805-DR-0834/0835</i>
<i>Sample Date:</i>	<i>08/08/2005</i>	<i>02/13/2012</i>	<i>05/23/2012</i>	<i>08/08/2005</i>
<i>Sample Type:</i>				<i>orig./dupl.</i>

<i>Metals</i>	<i>Units</i>				
Aluminum	mg/L	--	0.05 U	0.05 U	--/--
Antimony	mg/L	0.00013 J	0.00016 J	0.002 U	0.0002 J / 0.00015 J
Arsenic	mg/L	0.005 U	0.005 U	0.005 U	0.005 U / 0.005 U
Barium	mg/L	0.0263 J	0.025 J	0.015 J	0.0251 J / 0.0278 J
Beryllium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U / 0.001 U
Cadmium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U / 0.001 U
Calcium	mg/L	--	--	110	--/--
Chromium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U / 0.005 U
Chromium III (trivalent)	mg/L	--	0.010 U	0.010 U	--/--
Chromium VI (hexavalent)	mg/L	--	0.010 U	0.010 U	--/--
Cobalt	mg/L	0.007 U	0.007 U	0.007 U	0.007 U / 0.007 U
Copper	mg/L	0.00052 J	0.0029 U	0.002 U	0.0008 J / 0.00072 J
Iron	mg/L	--	--	0.11	--/--
Lead	mg/L	0.003 U	0.003 U	0.003 U	0.003 U / 0.003 U
Magnesium	mg/L	--	--	21	--/--
Manganese	mg/L	0.0089 J	0.031	0.0062 J	0.015 U / 0.015 U
Mercury	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U / 0.0002 U
Nickel	mg/L	0.02 U	0.02 U	0.02 U	0.0029 J / 0.02 U
Potassium	mg/L	--	--	1 U	--/--
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U / 0.005 U
Silver	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U / 0.0002 U
Sodium	mg/L	--	--	21	--/--
Thallium	mg/L	0.001 U	0.001 U	0.001 U	0.001 U / 0.001 U
Vanadium	mg/L	0.004 U	0.004 U	0.004 U	0.004 U / 0.004 U
Zinc	mg/L	0.02 U	0.02 U	0.02 U	0.02 U / 0.02 U

Notes:

U: Not present at or above the associated value.

J: estimated concentration.

0.05 U / 0.05 U - field duplicate.

-- not sampled.

TABLE 1

**BACKGROUND GROUNDWATER DATA
WILLOW RUN COMPANY VEHICLE OPERATIONS AREA
YPSILANTI, MICHIGAN**

<i>Sample Location:</i>		MW19-04	MW19-04	MW19-32	MW19-32	MW19-33
<i>Sample ID:</i>		GW-17303-021312-CB-046	GW-17303-052312-CB-323/324	GW-17303-022212-CB-067	GW-17303-052312-CB-321	GW-17303-022212-CB-066
<i>Sample Date:</i>		02/13/2012	05/23/2012	02/22/2012	05/23/2012	02/22/2012
<i>Sample Type:</i>			orig/dupl.			
<i>Metals</i>	<i>Units</i>					
Aluminum	mg/L	0.05 U	0.093 /0.04 J	0.19	0.049 J	0.062
Antimony	mg/L	0.002 U	0.002 U /0.002 U	0.00053 J	0.00041 J	0.00025 J
Arsenic	mg/L	0.005 U	0.005 U /0.005 U	0.005 U	0.005 U	0.0062 U
Barium	mg/L	0.014 J	0.017 J /0.016 J	0.2	0.09 J	0.26
Beryllium	mg/L	0.001 U	0.001 U /0.00046 J	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	0.001 U	0.001 U /0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	--	64 /64	--	140	--
Chromium	mg/L	0.005 U	0.005 U /0.005 U	0.005 U	0.005 U	0.005 U
Chromium III (trivalent)	mg/L	0.010 U	0.010 U /0.010 U	0.010 U	0.010 U	0.010 U
Chromium VI (hexavalent)	mg/L	0.010 U	0.010 U /0.010 U	0.010 U	0.010 U	0.0033 J
Cobalt	mg/L	0.007 U	0.007 U /0.007 U	0.007 U	0.007 U	0.007 U
Copper	mg/L	0.002 U	0.002 U /0.002 U	0.002 U	0.002 U	0.002 U
Iron	mg/L	--	0.38 J /0.17 J	--	0.091 J	--
Lead	mg/L	0.003 U	0.003 U /0.003 U	0.003 U	0.003 U	0.003 U
Magnesium	mg/L	--	11 /11	--	19	--
Manganese	mg/L	0.031	0.068 /0.048	0.27	0.12	0.73
Mercury	mg/L	0.0002 U	0.0002 U /0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	mg/L	0.02 U	0.02 U /0.02 U	0.0053 J	0.02 U	0.0035 J
Potassium	mg/L	--	1 U /1 U	--	6	--
Selenium	mg/L	0.005 U	0.005 U /0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.0002 U	0.0002 U /0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	--	53 /54	--	1200	--
Thallium	mg/L	0.001 U	0.001 U /0.001 U	0.001 U	0.00015 J	0.001 U
Vanadium	mg/L	0.004 U	0.004 U /0.004 U	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.02 U	0.02 U /0.02 U	0.02 U	0.02 U	0.02 U

Notes:

U: Not present at or above the associated value.

J: estimated concentration.

0.05 U/0.05 U - field duplicate.

-- not sampled.

TABLE 1

**BACKGROUND GROUNDWATER DATA
WILLOW RUN COMPANY VEHICLE OPERATIONS AREA
YPSILANTI, MICHIGAN**

<i>Sample Location:</i>		MW19-33	MW19-34	MW19-34	MW19-35	MW19-35
<i>Sample ID:</i>		GW-17303-052312-CB-320	GW-17303-022212-CB-064/065	GW-17303-052312-CB-319	GW-17303-022112-CB-061	GW-17303-052312-CB-318
<i>Sample Date:</i>		05/23/2012	02/22/2012	05/23/2012	02/21/2012	05/23/2012
<i>Sample Type:</i>			orig/dupl.			
<i>Metals</i>	<i>Units</i>					
Aluminum	mg/L	0.088	0.18 /0.2	0.12	0.044 J	0.076
Antimony	mg/L	0.002 U	0.00046 J /0.00051 J	0.00042 J	0.00057 J	0.00033 J
Arsenic	mg/L	0.014	0.005 U /0.005 U	0.005 U	0.0078	0.015
Barium	mg/L	0.26	0.14 /0.14	0.13	0.24	0.19
Beryllium	mg/L	0.001 U	0.001 U /0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	0.001 U	0.001 U /0.001 U	0.001 U	0.001 U	0.001 U
Calcium	mg/L	230	--/--	190	--	170
Chromium	mg/L	0.005 U	0.005 U /0.005 U	0.005 U	0.0043 J	0.016
Chromium III (trivalent)	mg/L	0.010 U	0.010 U /0.010 U	0.010 U	0.010 U	0.016
Chromium VI (hexavalent)	mg/L	0.010 U	0.010 U /0.010 U	0.010 U	0.010 U	0.010 U
Cobalt	mg/L	0.002 J	0.007 U /0.007 U	0.0017 J	0.0028 J	0.007 U
Copper	mg/L	0.002 U	0.002 U /0.002 U	0.002 U	0.002 U	0.002 U
Iron	mg/L	8.4	--/--	0.58	--	5.3
Lead	mg/L	0.003 U	0.003 U /0.003 U	0.003 U	0.003 U	0.003 U
Magnesium	mg/L	35	--/--	26	--	130
Manganese	mg/L	1	0.48 /0.49	0.48	1.8	2.4
Mercury	mg/L	0.0002 U	0.0002 U /0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	mg/L	0.02 U	0.0041 J /0.0036 J	0.02 U	0.0041 J	0.02 U
Potassium	mg/L	11	--/--	12	--	74
Selenium	mg/L	0.005 U	0.005 U /0.005 U	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.0002 U	0.0002 U /0.0002 U	0.0002 U	0.0002 U	0.0002 U
Sodium	mg/L	890	--/--	1600	--	170
Thallium	mg/L	0.001 U	0.001 U /0.001 U	0.00015 J	0.001 U	0.00034 J
Vanadium	mg/L	0.004 U	0.004 U /0.004 U	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.02 U	0.02 U /0.02 U	0.02 U	0.0053 J	0.02 U

Notes:

U: Not present at or above the associated value.

J: estimated concentration.

0.05 U/0.05 U - field duplicate.

-- not sampled.

TABLE 2

**CALCULATED BACKGROUND VALUES FOR METALS IN GROUNDWATER
WILLOW RUN COMPANY VEHICLE OPERATIONS AREA
YPSILANTI, MICHIGAN**

<i>Metals</i>	<i>Units</i>	<i>Number of Samples</i>	<i>Percent ND</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Distribution</i>	<i>Outliers</i>	<i>Background Calculations</i>	
										<i>Method</i>	<i>Value</i>
Aluminum	mg/L	12	25%	0.044 J	0.19	0.080	0.059	Lognormal	0	x + 3s	0.256
Antimony	mg/L	14	29%	0.00013 J	0.002 U	0.001	0.000	Lognormal	0	NP UTL ⁽²⁾	0.002 U
Arsenic	mg/L	14	79%	0.005 U	0.015	0.005	0.004	--	--	NP UTL	0.015
Barium	mg/L	14	0%	0.014 J	0.26	0.117	0.098	Lognormal ⁽¹⁾	0	x + 3s	0.412
Beryllium	mg/L	14	93%	0.00046	0.001 U	0.0005	0.00001	--	--	NP UTL	0.001 U
Cadmium	mg/L	14	100%	0.001 U	0.001 U	0.001	0.0	--	--	NP UTL	0.001 U
Calcium	mg/L	6	0%	64	230	151	59	Normal	0	x + 3s	328
Chromium	mg/L	14	86%	0.0043 J	0.016	0.004	0.004	--	--	NP UTL	0.016
Chromium III (trivalent)	mg/L	12	92%	0.010 U	0.016	0.006	0.003	--	--	NP UTL	0.016
Chromium VI (hexavalent)	mg/L	12	92%	0.0033 J	0.010 U	0.005	0.000	--	--	NP UTL	0.010 U
Cobalt	mg/L	14	79%	0.0017 J	0.007 U	0.003	0.001	--	--	NP UTL	0.007 U
Copper	mg/L	14	86%	0.00052 J	0.0029 U	0.001	0.000	--	--	NP UTL	0.0029 U
Iron	mg/L	6	0%	0.091 J	8.4	2.46	3.54	Lognormal	0	x + 3s	13.1
Lead	mg/L	14	100%	0.003 U	0.003 U	0.002	0.0	--	--	NP UTL	0.003 U
Magnesium	mg/L	6	0%	11	130	40	45	Lognormal	0	x + 3s	174
Manganese	mg/L	14	7%	0.0062 J	2.4	0.531	0.742	Lognormal	0	x + 3s	2.76
Mercury	mg/L	14	100%	0.0002 U	0.0002 U	0.0001	0.0	--	--	NP UTL	0.0002 U
Nickel	mg/L	14	64%	0.0029	0.02 U	0.008	0.003	--	--	NP UTL	0.02 U
Potassium	mg/L	6	33%	1 U	74	17.3	28.2	Lognormal	2	x + 3s	102
Selenium	mg/L	14	100%	0.005 U	0.005 U	0.003	4.5E-19	--	--	NP UTL	0.005 U
Silver	mg/L	14	100%	0.0002 U	0.0002 U	0.0001	0.0	--	--	NP UTL	0.0002 U
Sodium	mg/L	6	0%	21	1600	656	670	Lognormal	0	x + 3s	2666
Thallium	mg/L	14	79%	0.00015 J	0.001 U	0.0004	0.0001	--	--	NP UTL	0.001 U
Vanadium	mg/L	14	100%	0.004 U	0.004 U	0.002	0.0	--	--	NP UTL	0.004 U
Zinc	mg/L	14	93%	0.0053 J	0.02 U	0.010	0.001	--	--	NP UTL	0.02 U

Notes:

U: Not present at or above the associated value.

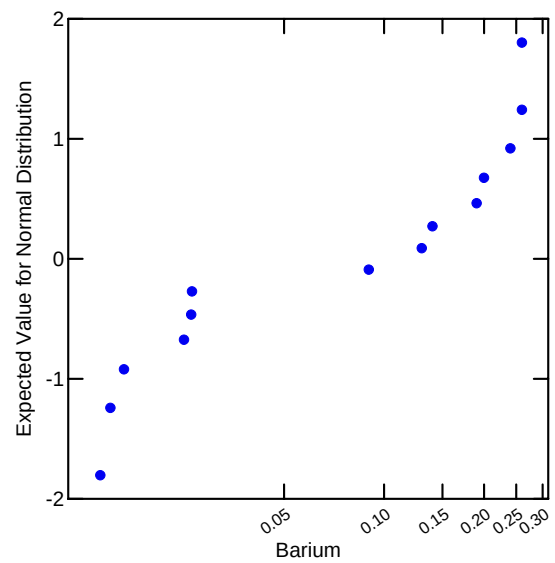
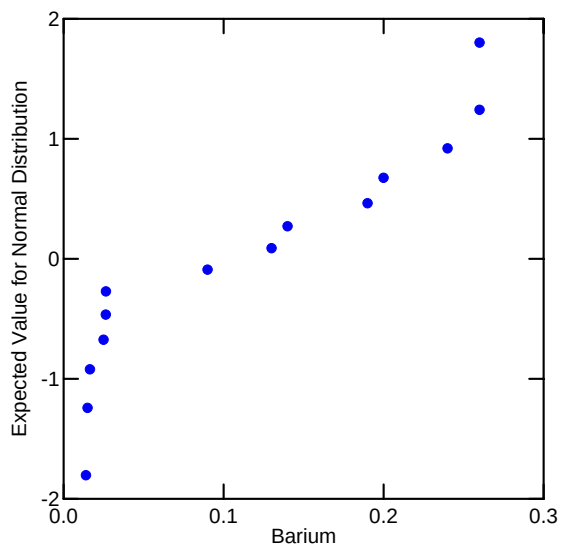
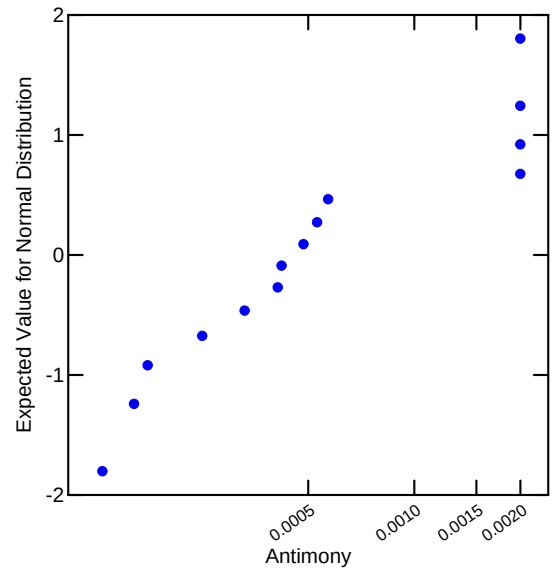
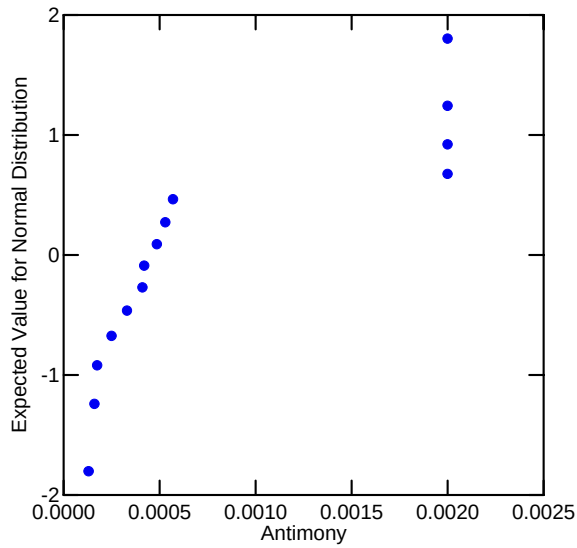
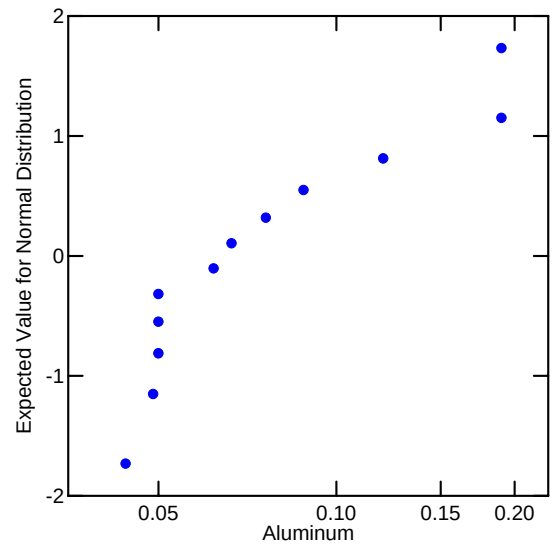
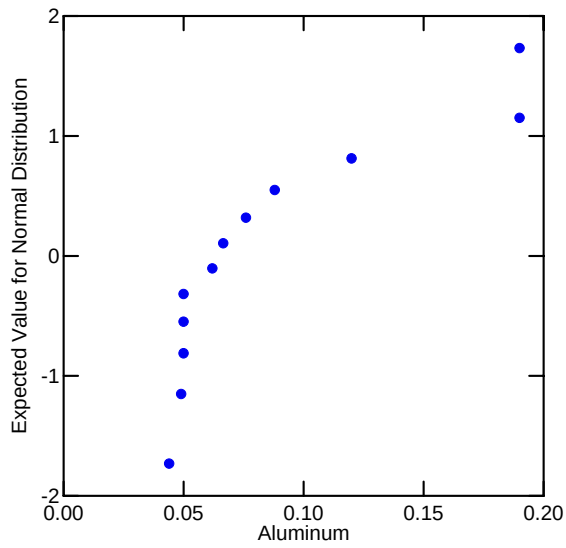
J: estimated concentration.

⁽¹⁾ Distribution was determined to be approximately lognormal using probability plots.

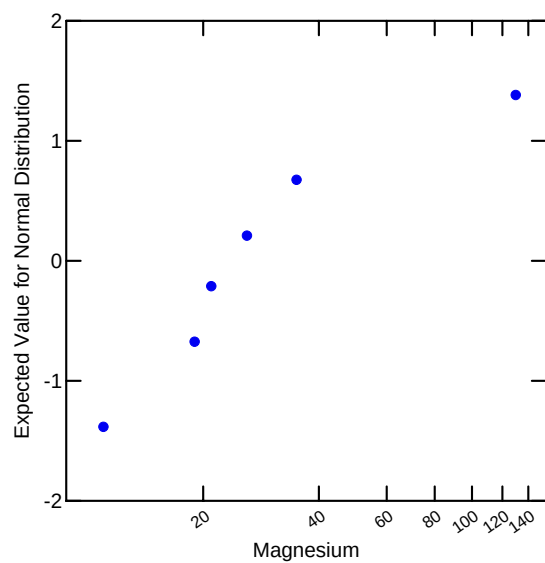
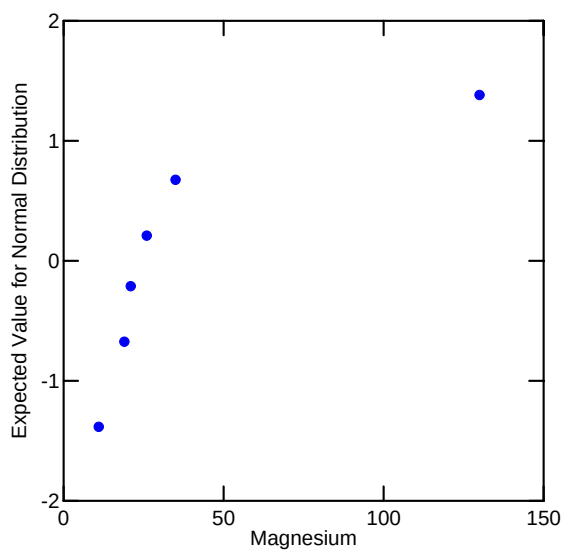
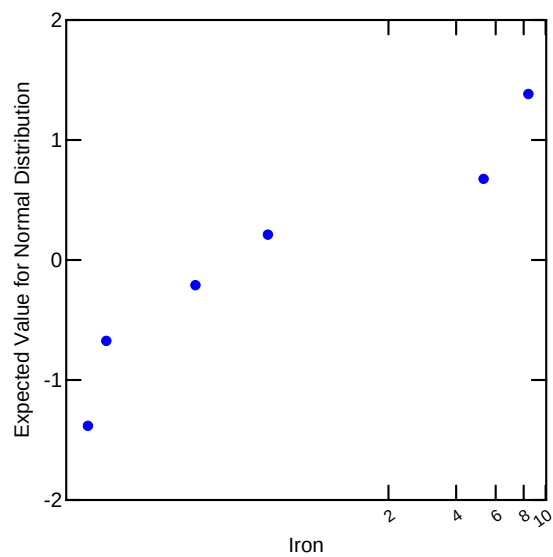
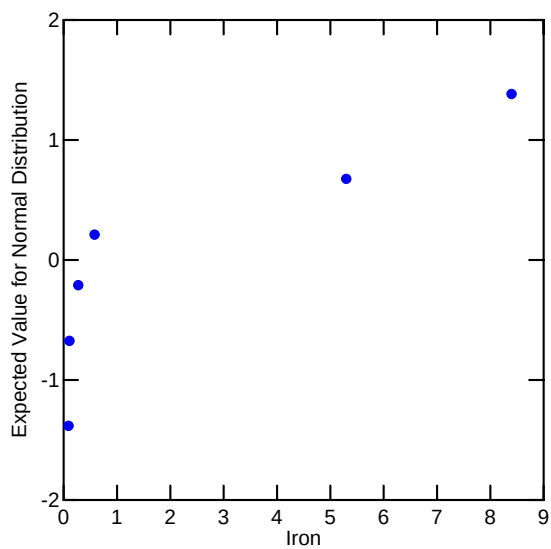
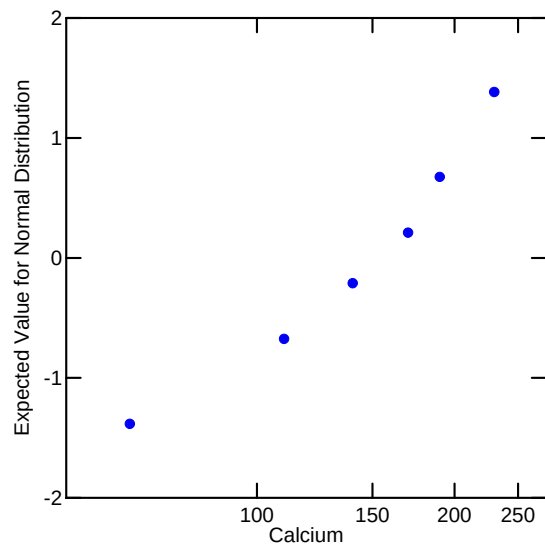
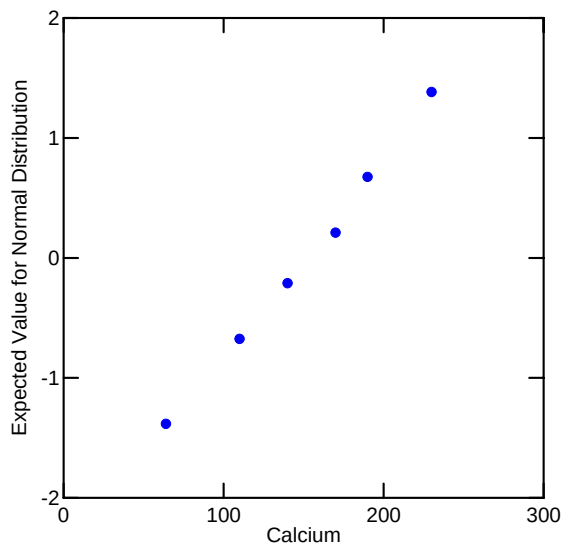
⁽²⁾ The calculated BV was lower than the reported detection limit, and therefore the NP UTL was used as the BV.

NP UTL - Nonparameteric Upper Tolerance Limit

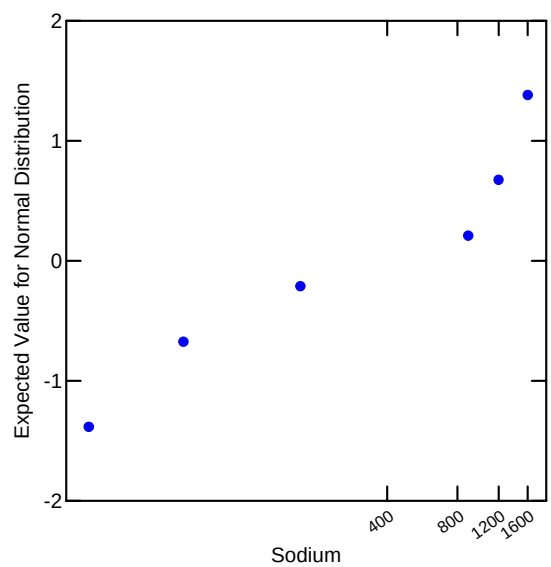
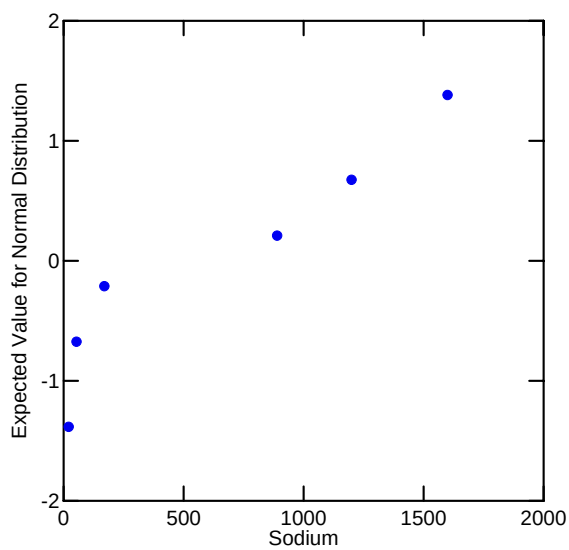
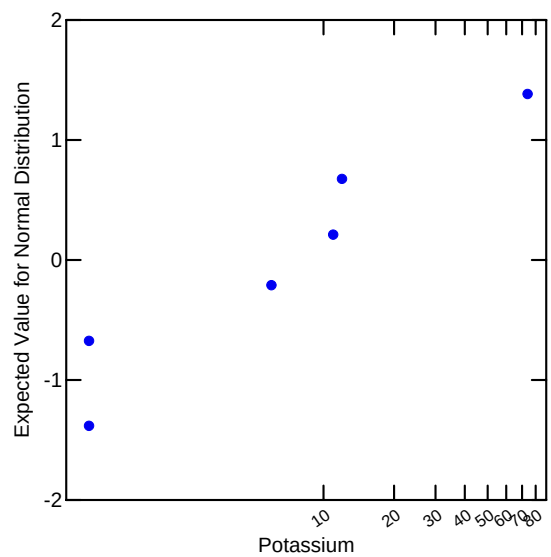
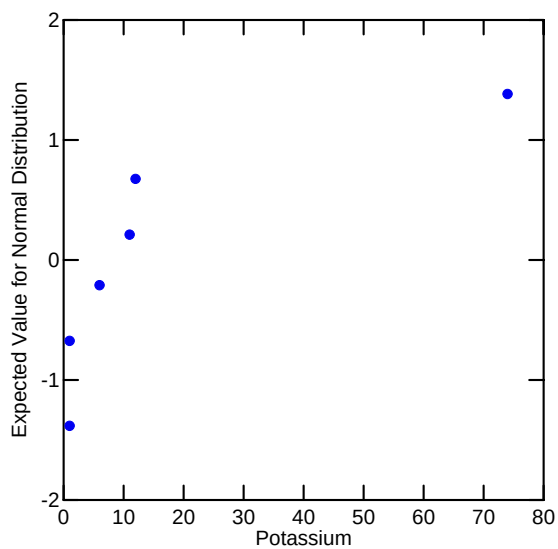
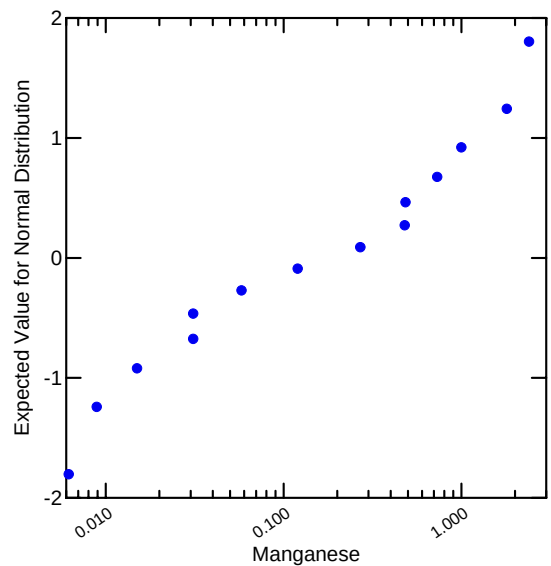
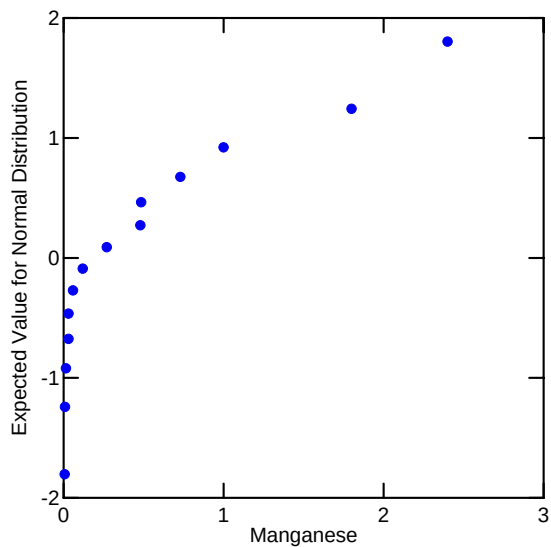
ATTACHMENT A
PROBABILITY PLOTS



Probability Plots (Original and Log Scale)
 Total Metals (mg/L) in Groundwater
 Willow Run Company Vehicle Operations Area
 Ypsilanti, Michigan



Probability Plots (Original and Log Scale)
 Total Metals (mg/L) in Groundwater
 Willow Run Company Vehicle Operations Area
 Ypsilanti, Michigan



Probability Plots (Original and Log Scale)
 Total Metals (mg/L) in Groundwater
 Willow Run Company Vehicle Operations Area
 Ypsilanti, Michigan